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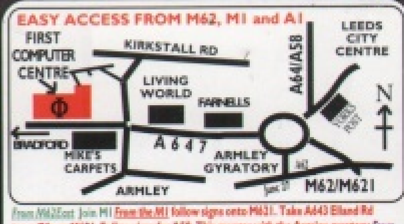
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PHOTOGRAPHY Ben Jennings
COVER ILLUSTRATION Mark Alleyne
SYSTEMS AND REPRO Sarah-Jane Leavey, Sarah Best

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PRIORY COURT
30-32 FARRINGDON LANE
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UNITED KINGDOM
0171 972 6700
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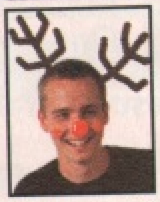
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CU AMIGA MAGAZINE ABC Jan-June 1996 36,856

Editorial



Moo! Well I don't know what noise a reindeer makes ... Are you excited? I am! Imagine 4.0 headlines this month's cover disks and if you've got the CD edition you'll find over 100Mb of objects and other Imagine data on there too This issue also sees part one of a guide to getting a job in computer graphics! Ask yourself, who else would do all that for you?

Other notable festivities in this issue include our special Ultimate Amiga Trainspotter Quiz, in which you can win a whole sack load of unique and obscure Amiga rarities. Check it out on page 87. On the games side, The Chaos Engine 2 finally arrived in for review this month, along with the new 96-97 update of SWOS.

Before I go I'd like to introduce you to Andrew Korn (no verruca jokes please) who joins us this month as our new Staff Writer. Andrew is a bit of an all-rounder and a dedicated Amiga fan of many years standing. Well I'll be off now. Time to make a start on that box of dates.

Tony

Features

Cover Disks



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Games

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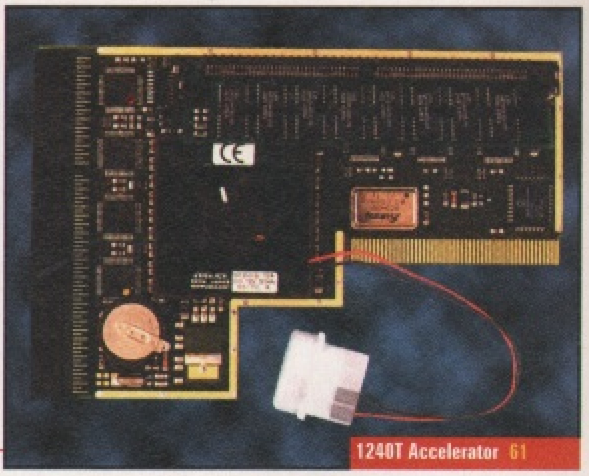
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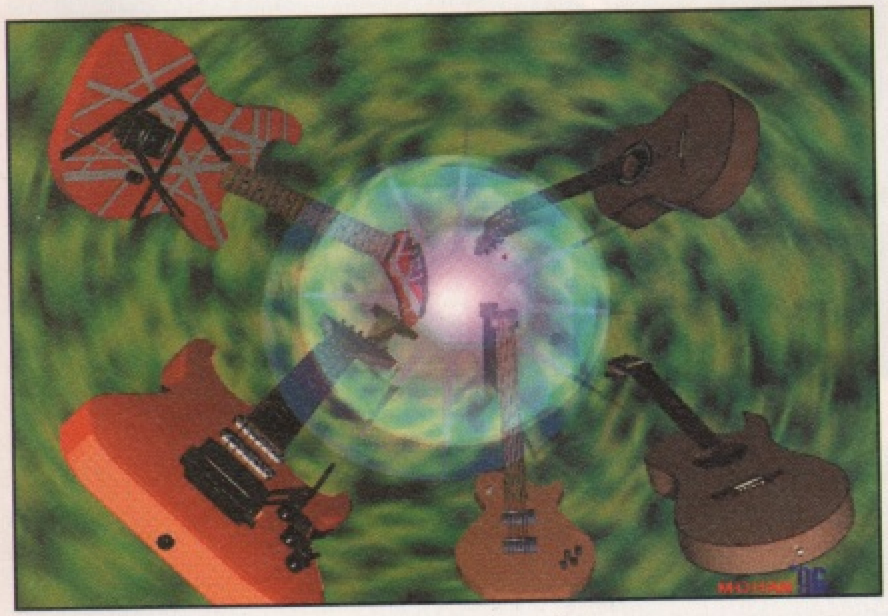



Imagine Tutorial 78



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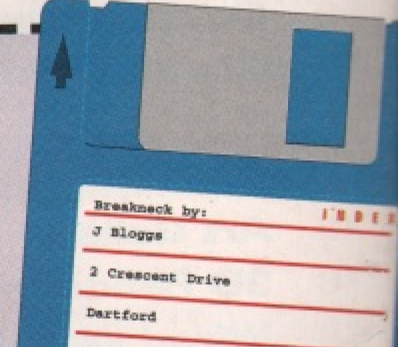
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cover disks
Loading instructions



Disks 148 & 149
Imagine 4.0

Write protect your Imagine 4.0 cover disks before you do anything else. You can now set about installing Imagine onto your hard drive. A simple installer has been included which requires little more than a few mouse clicks. When you open the disk on your Workbench you'll see two icons, one marked Extract-Imagine_FPU and another marked Extract-Imagine_INT. If you have an FPU on your Amiga then double click the FPU icon. If not click the INT icont (INT is short for 'integer'). Next you'll be asked where you want to install Imagine. Use the standard file requester to select your destination. There's no need to create an Imagine drawer yourself as that will be done for you. For example, if you wanted Imagine installed in your main 'Work' partition then simply select the Work drive from the requester. Alternatively select further directories to install it deeper.

This month there are no less than eight pages devoted to Imagine 4.0. The first of the two tutorials can be found on page 18. For a more in depth guide, see the second tutorial on page 78. If you have the CD edition you'll find a treasure trove of Imagine goodies on the CD too.

IF YOUR DISK/CD WON'T LOAD

We go to great trouble to ensure that the CU Amiga Magazine cover disks will work on common Amiga models. However, if you do experience problems follow this simple guide.
1: Remove all unnecessary upgrades and peripherals, such as printers and modems. Some trapdoor expansions can also cause problems.
2: Follow the instructions on this and previous pages exactly.
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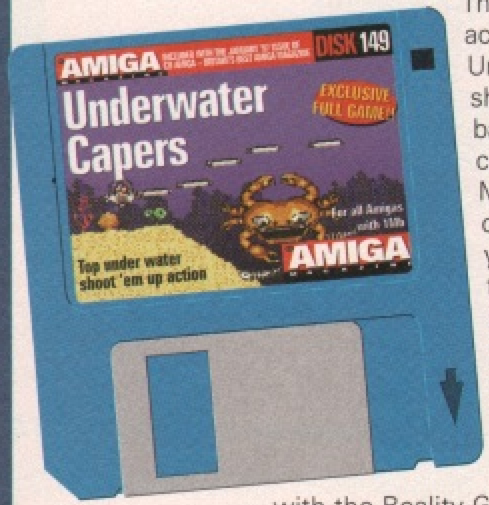
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Cover disk 149
Underwater Capers



The official title of this game is actually SeeMore Doolittle's Underwater Capers. It's a watery shoot 'em up in which you must battle against the elements to rescue your friend Marian the Mermaid. As you gun down the crustaceans that try to kill you you'll pick up extra points and treasure that you can use to buy bigger and better weapons in the shop. To access the shop at any time in the game, press the spacebar.

Underwater Capers is a full game which has been written with the Reality Game Engine (press F2 during the game and you'll find out all about this) and should run on all Amigas with 1Mb. Getting the game up and running couldn't be easier. You may notice that because we wanted to give you the complete package of Imagine 4, there are some Imagine 4 files on the game disk. Don't worry they will not affect starting the game up in any way. It's self booting so just put the disk in your Amiga and turn it on. You can also run the game from the Underwater Capers icon on the disk. Just double click on this icon from Workbench and you're off. When loaded, press F1 for the game instructions or follow the on screen instructions to get started. Good luck.





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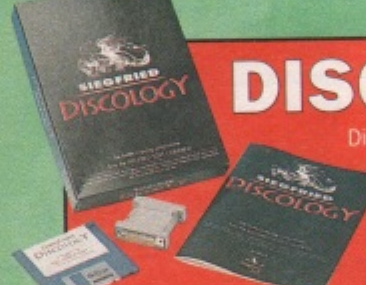
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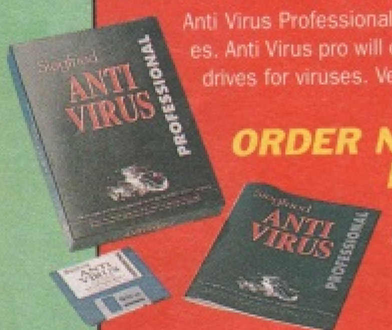
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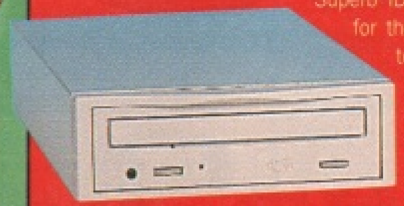
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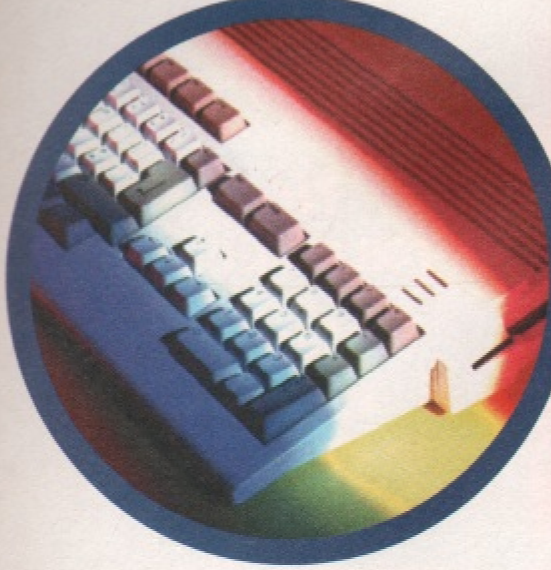
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News

Super 'Amiga' Announced

Phase 5 have announced a stunning new computer platform called A\Box. A\Box will be able to run most Amiga software through emulation but the hardware design is totally different from anything currently available, based on custom chips with lightning fast data busses and interfaces. Here are the specifications:

- 128-bit high performance UMA (Unified Memory Architecture) controller, using fast SDRAMs with a clock frequency of 100 MHz and a maximum bandwidth of up to 1.6 Gb per second
- 64-bit processor bus with a maximum clock rate of 100MHz
- Two 24-bit video DMA units with freely addressable access, with integrated 24-bit video DACs
- Four 16-bit audio outputs, 44.1 KHz with any number of virtual tracks, sample output, FM and AM synthesis
- Video-in ports for 2 independent video inputs in Y/UV 4:2:2 quality
- Audio inputs with 16-bit stereo CD quality sampling
- LCD (TFT) display controller according to the VESA standard
- A PCI-bus interface for medium-performance I/O applications
- A local 16-bit DMA bus with 66.7 MHz and a maximum bandwidth of 132 Mb per second for universal low-cost applications
- An integrated IEEE 1394 'firewire' controller for digital I/O applications and desktop bus interface.

Phase 5 explained the central controller of the A\Box:

"The heart of the A\BOX is the system controller, Caipirinha, which will realise the functional integration on which the A\BOX concept is based. Caipirinha opens up new dimensions of power and technology. Caipirinha will be implemented as a VLSI Custom Chip design in 0.35 um CMOS ASIC technology using modern, probably 575-pole BGA, housing."

"With a bus width of 128 bits to the memory bus, extensive dual-port buffers and FIFOs in the data lines, and clock rates of initially 100 MHz externally and 200 MHz internally, Caipirinha can provide an intense data throughput and powerful additional functions which do not rely on the processor, such as support for 3D and multimedia applications."

Compare this to current even high-end PCs which have a primitive 32-bit memory bus and system board clock speed normally of 33MHz. The extremely powerful video and audio functions certainly look set to impress professionals and enthusiasts alike just as the first Amiga did. The 'firewire' standard is a next generation standard offering a serial bus which operates at over 100 megabits per second and can handle up to 64 devices.

Phase 5 elaborated:

"Caipirinha provides two video DMA engines: one 220 MHz high-performance video output for resolutions of up to 1600 x 1280 pixels with 24 bits and a refresh frequency of 75Hz and a Genlock-capable 135MHz video output for a second monitor or image output in video resolutions such as PAL/NTSC or S-VHS. The video output of the 135 MHz output can be superimposed as a window on the 220 MHz display while both video DMAs are in parallel operation."

Video output

This means that not only is the A\BOX suitable as a machine capable of ultra high-resolution 24-bit images but it retains the Amiga's capability to produce real video output for multimedia and rendering output uses etc. The ability to display video data of a different colour depth (and even different formats such as Y/UV and CMYK) inside a window makes real-time video-in-a-window and professional DTP applications a cinch.

Phase 5 go to some length to document Caipirinha's internal DSP-RISC processing unit named FAME (Flexible Area Movement Engine). FAME allegedly supports special multimedia and 3D applications which can make optimum use of the supportive processing capacity available parallel to that of the CPU. Because it is a programmable DSP-RISC processing unit FAME is said not to be limited to today's standards. Phase 5 say its powerful features are also available for future standards such as new 3D or video-compression algorithms.

Audio channels

They go on to say that Caipirinha has two separate audio channels in 16-bit CD quality. Internally the number of virtual audio tracks is limited only by the memory space available and FAME is able to

engineer real-time generation and mixing of various audio tracks in any random format (e.g. also 24-bit audio) without making demands on the processor. They say it is also possible to generate various sound effects, a feature which is optimally supported by functions similar to DSP. In general, digital samples, FM-synthesized sounds and envelope-VCO generated tones can be generated, modified, mixed and output via these freely programmable audio-DMAs. Pretty exciting stuff for audiophiles.

Showing no sign of getting tired, the specification list goes on to describe the operating system:

"In general the A\Box project aims to implement an Amiga OS-compatible operating system of a state-of-the-art technical standard and to provide it as a basic operating system for the A\Box. Modern functions such as support for multi-processing are to be transparently integrated. The basis for this development has already been created in the form of the Amiga OS 3.1 compatible operating core which is currently being tested in the software labs of Phase 5 digital products."

Low price

Given the absolutely astounding specifications Phase 5 claim for the A\Box the question of price will be on every Amiga enthusiast's mind. Incredibly they claim that their unit will be on sale for around £1,300. The base specification of that unit will be 16Mb RAM, 1Gb hard drive and CD-ROM as standard. This compares extremely well against the specs of PC based machines even before considering the more efficient Amiga based operating system and all that new custom hardware.

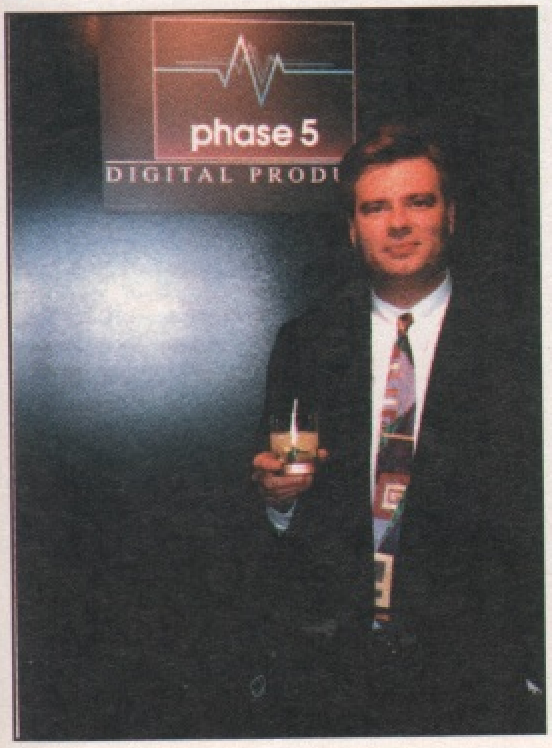
These are extremely bold claims by Phase 5. Having spoken to Wolf Dietrich, the MD of the company, in Cologne he set me straight on some points. The first concern being about the proprietry hardware of the A\Box. Despite the high specifications many people have expressed concerns over being locked into buying a machine and subsequent hardware from one manufacturer.

"The Power PC platform is little more than a PC with a PPC processor instead of a Pentium. It was apparent we needed hardware which would be as revolutionary as it was on the Amiga when it first arrived. We have no intention of keeping the hardware design to ourselves, we will not only allow licensing of the technology to third parties but actively encourage it."

Doomed Walker

Mr Dietrich expressed regret that the attempted co-operation with Amiga Technologies for a Power PC upgrade to the mythical 'Walker' wasted so much of their time. He was quick to point out that the A\Box will attempt to find a niche as a high-end work station as well as an enthusiasts machine. Their plans to ensure a port of the Linux UNIX flavour to the A\Box should go a long way to this goal. "Imagine opening up two shells. One is an AmigaDOS style shell and the other is Unix. The two could run together on the A\Box and it is our plan to make this a reality."

Admitting it was something of a gamble. Mr Dietrich hinted that they'd need to sell over 25,000 units to break even against development costs. It would be easy to dismiss the machine as vapourware were it not for Phase 5's reputation for delivering and their high profile in the Amiga market. Revealing that they've had an OS 3.1 compatible operating system in testing for three months clearly puts Phase 5 out in front as our hopes for a clear route to the future from the Amiga. CU Amiga Magazine wishes them the best of luck.



Wolf Dietrich, MD of Phase 5, sips a Caipirinha cocktail which lends its name to the revolutionary chip at the heart of the A\BOX.

Caipirinha, What's It All About?

That huge custom chip at the heart of Phase 5's A\Box certainly has an odd name. You might be forgiven for thinking it was short for some long technical description. We asked Wolf Dietrich what it was all about and he set the record straight by ordering two Caipirinhas from Phase 5's private bar. Yes, it turns out it's a cocktail and not just any cocktail. It's the national drink of Brazil.

Turns out that it's a favourite at Phase 5 after a long day of developing blistering new Amiga accelerators, not to mention the A\BOX. Since you heard it here first, we'll fill you in with the full sordid details with nothing less than the full and unabridged recipe; to make a Caipirinhas, halve three or four fresh limes and squeeze them into a tumbler. Drop in the rinds, along with a few cubes of ice. Fill to the brim with Pirassununga 51 Cachaca (sugar cane rum, AKA 'Pinga') and finally sprinkle sugar, sweetening to taste.

Note: Your Caipirinhas needs to be stirred before and during drinking to facilitate the blending of the sugar. Serving in a short tumbler glass with a cocktail stirrer is preferable. If it's good enough for the gurus at Phase 5, it's good enough for us.

Power PC Upgrade

POWER UP
AMIGA™ GOES POWER PC™

Phase 5 also had their new Power PC upgrades on view at Cologne.

The Power Up project is a dual hardware/software plan of Phase 5's to provide Motorola Power PC based accelerators for the Amiga and implement a PPC Amiga compatible operating system in the longer term.

Power Up cards are based on a 680x0 CPU such as a 68040 or a 68060 in conjunction with a much faster Power PC chip such as a PPC604e clocked at 150 to 200Mhz. The PPC isn't a co-processor, it's a parallel CPU which also has access to the shared memory. This approach allows for the gradual porting of applications to PPC including the operating system with no 680x0 emulation slow-down.

Phase 5 also released pricing details of the A4000 Cyberstorm upgrades. These are sub modules which plug into the 68040/68060 socket on the Cyberstorm II card and which house the old CPU and the new PPC. Although pricing was not announced on A1200 trapdoor cards, they are expected to be available at the same time to the public. The first batch of 200 or so A4000 Power Up cards are destined for Amiga developer companies and will have been shipped by the time you read this. So begins the Amiga's move to Power PC at last.

Phase 5 have less expensive 603e based boards for A1200s ready for release at the same time as the integrated A4000 Power Up card (a Cyberstorm II with a PPC socket). These are due to ship in the first quarter of 1997 and will be based on 64-bit rather than 32-bit technology to offer even further increases in performance over the current Cyberstorm upgrade.



Shown here is Phase 5's development system for the Power Up project. The unit under the middle monitor is a logic analyser connected via a bundle of wires to the 200Mhz PPC604 inside the 4000 Tower.

Village Unveil Picasso IV

One interesting development from the Cologne show was the re-appearance of Villagetronic onto the Amiga market. They had two significant and related products on display; The new Picasso IV Zorro II/III RTG graphics board and the Picasso 96 RTG software to go with it (or any other kind of support RTG card). Very little was heard about the Picasso IV before the show but the impressive specifications were backed up with a live demonstration of a working production unit.

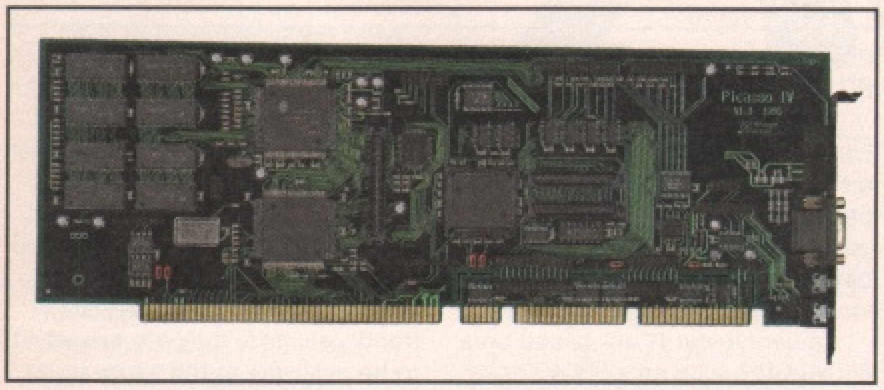
The Picasso IV boasts a new 64 bit Cirrus Logic graphics chip capable of much improved graphics performance over the earlier Cirrus chip found in the Picasso II. It also comes equipped with 4MB of 50ns EDO (Extended Data Out) RAM as standard for very high resolution 24 bit screens.

However, perhaps the greatest feature of the Picasso IV to place it apart from the others is provision of a built-in flicker fixer also as standard. There's also feature connectors for the Pablo video encoder, a TV tuner module (also demonstrated in Cologne with video-in-a-window) and a forthcoming MPEG module. Exciting stuff.

The projected sales price of the card in the UK is £299 which although £50 more expensive than the forthcoming (and still as yet to be seen) Phase 5 CyberVision 3D, with 4Mb of RAM and a flicker fixer still offers excellent value for money. The flicker fixer alone can allow the use of a much cheaper standard PC monitor instead of a special unit capable of 15KHz video scan rates such as the Microvitec 1764.

Rather than using the older Picasso software, Villagetronic have commissioned an entirely new RTG software system in the shape of Picasso 96. This software amazingly offers Cyber GraphX support which isn't going to leave anyone out in the cold as far as support from Amiga software. It does however have the advantage of a superior screen mode editor over CyberGraphX.

Look forward to a very exciting head-to-head review of the Phase 5 CyberVision 3D and the Villagetronic Picasso IV coming up the next issue of CU Amiga Magazine.





▲ Top: the new Picasso and below: this is the new high resolution Workbench running on Picasso 4.

PPC For Tower-based A1200

Phase 5's Power PC upgrades (see page 13) even extend to one for the A1200. Similar to the Blizzard 1240 T/ERC accelerator reviewed on page 61, the A1200 card will need to be fitted to an A1200 in some kind of tower casing. Two CPUs and the sizable heatsink/fan for the Power PC will make this essential though the good news is that Phase 5 plan to offer upgrades for owners of existing Blizzard accelerators.

Phase 5 claim to be working in conjunction with the tower system manufacturer Eagle Computers so that bundled Power Up based tower systems can be made available for retail. Indeed at the Cologne show Haage and Partner demonstrated version 2.0 of their Storm C++ compiler on an Eagle Tower fitted with a Power Up card from Phase 5. Storm C++ is capable of generating PPC code and this was being demonstrated with a Mandelbrot program compiled with Storm C++ and running on the PPC card.

There wasn't much software available for the PPC but the author of the Reflections ray tracer had recently taken delivery of a Power Up card and implemented some functions in PPC code. A function to make a polygon based object out of smoothly intersecting circles took some 28 seconds to run on the 50Mhz 68060 but barely 1 second on the 200Mhz Power PC. It was enough to make most observers jaw drop in amazement and promises much for the next year.

This move to Power PC frees the Amiga from the limited 'end of the line' 68060 CPU as the fastest possible processor upgrade. If Power PC upgrade option is taken up by enough Amiga users we could see a large number of applications re-compiled specifically for Power PC which would lead to drastic performance increases. Short of a new Amiga this is the best news anyone could hope for.

Phase 5 contacts

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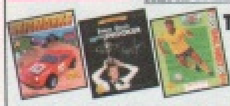
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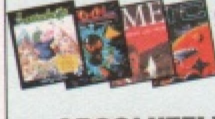


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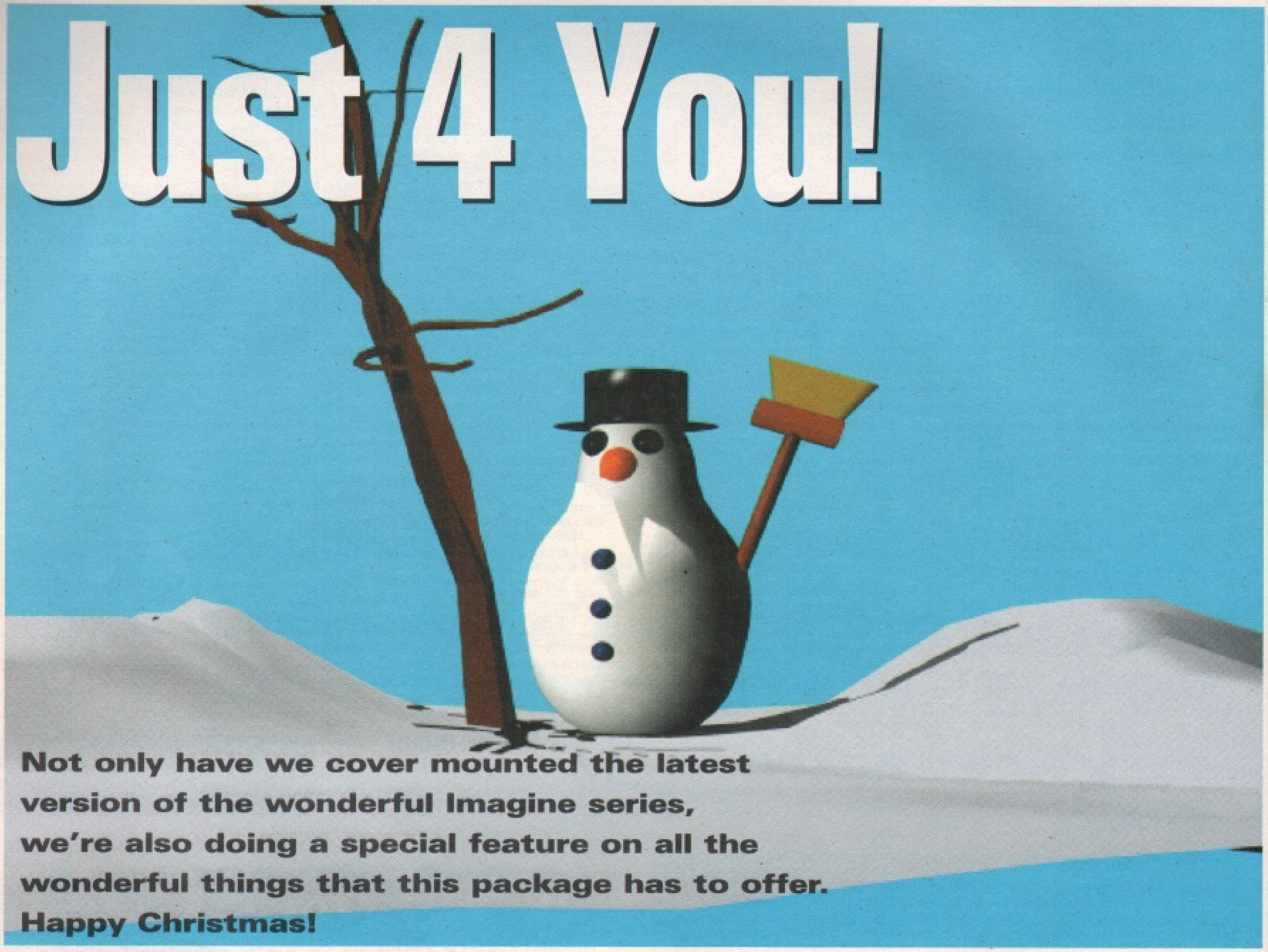
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Just 4 You!



Not only have we cover mounted the latest version of the wonderful Imagine series, we're also doing a special feature on all the wonderful things that this package has to offer. Happy Christmas!

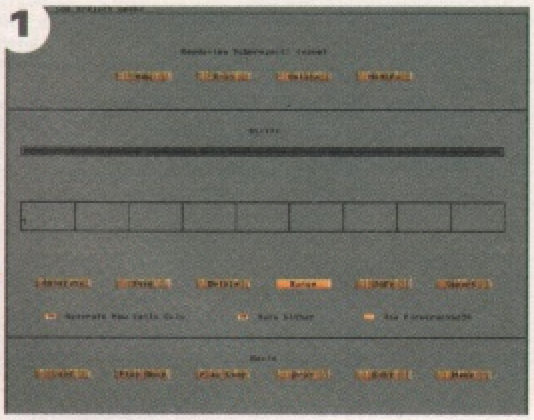
Imagine 4 is a very powerful program, with many different features and facilities. To try and organise everything so you aren't overwhelmed by it, different features are separated into different Editors. Each Editor has its own screen, its own menus and its own buttons. The key to getting to grips with Imagine is to understand when to use a particular Editor. So for the purpose of this article we're going to help you understand just how to do that, so you can spend hours of enjoyment over the holidays creating your own renders with this wonderful package.

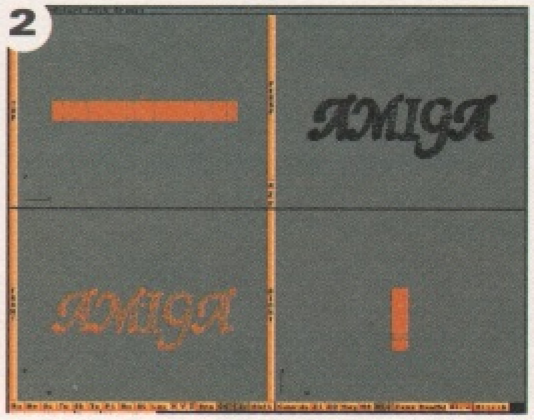
First, things first. Access to the different Editors is through the first pull-down menu on the far left of the screen. The three most important Editors, Project, detail and Stage are shown below: master these three and you'll be able to render some impressive pictures.

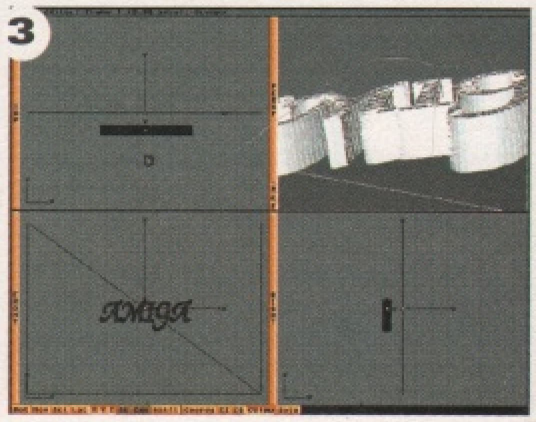
The Project Editor (1) will start almost every session of Imagine. If you don't want to load an existing project from the title screen, you should select NEW and this will bring you to the Project Editor. It's here that a new project is created. Creating the project itself is pretty simple: pick a name which you will remember.

The Detail Editor (2) is where new objects are created or where you can manipulate existing objects. It's here where the object's 'attributes' (textures, mappings and physical properties) can be defined. Objects can be constructed from primitive shapes or created from smooth outlines. Once created, they are saved to disk ready for use in the next Editor.

The Stage Editor (3) is where objects are positioned. Your stage is an empty three dimensional world, and it's where you load in objects and lights sources, and position them all. A view in the top right lets you preview what the scene will look like. When you are happy, return to the Project Editor and render your view in full three dimensions.







Imagine 4's three most important editors: (from left) Project, Detail and Stage.

Dealing with objects

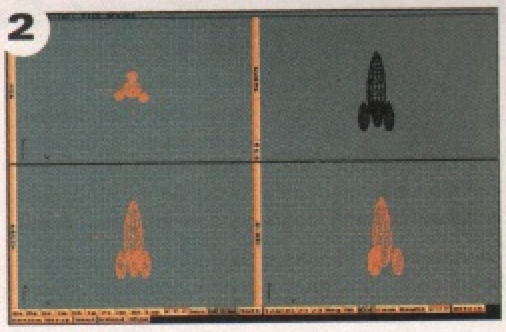
Imagine allows objects to be manipulated in many ways. In this project, we'll take a look at how its possible to re-position and re-size objects.

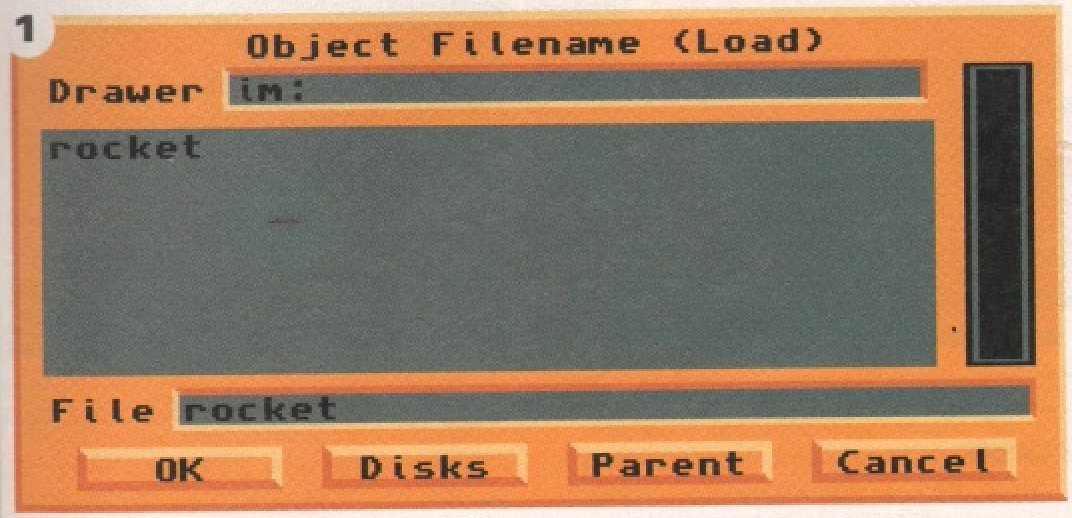
Run Imagine and go to the Detail Editor. You can do this by selecting 'Detail Editor' from the first pull-down menu or by pressing the Right Amiga key and 2. Now select the pull-down menu entitled 'Object' and select the 'Load' option. You'll see a requester like pic 1.

You will need to enter IM: into the Drawer field, and you'll see a list of files. Select the file called 'Rocket' and click on OK. You'll see something like pic 2.

You'll see the rocket object drawn in orange in the three plan views and in black in the 3D preview window. Press F1 to highlight the object and it will turn purple. Now you can start to manipulate it.

At the bottom of the screen there is a row of small buttons. The most important ones are RO (for Rotate) and MV (for move). With the object still highlighted, click on RO and then hold down the left mouse button in one of the three plan views and move the mouse. The object will rotate: you can determine which way by clicking on one of the X, Y or Z buttons at the bottom of the screen.

2


1


If you want to keep to the new position, click on the OK button, otherwise click on CAN (for cancel). The other buttons will manipulate the rocket in other ways, SC will Scale it up and down, TW with Twist it, SH will Shear it – experiment to see what you can achieve.

Finally, use the 'Project' pull-down menu and select QuickRender. Click on OK and you'll see a preview of what your rocket will look like.

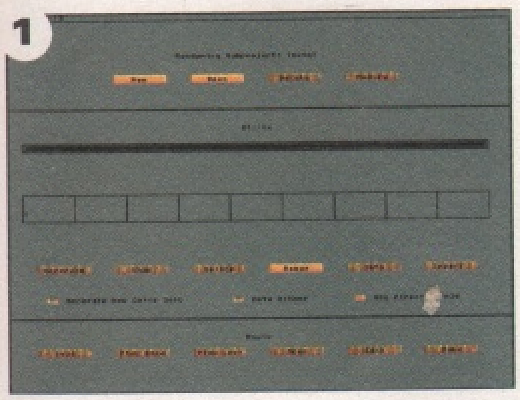


3


Stage and Project Editor

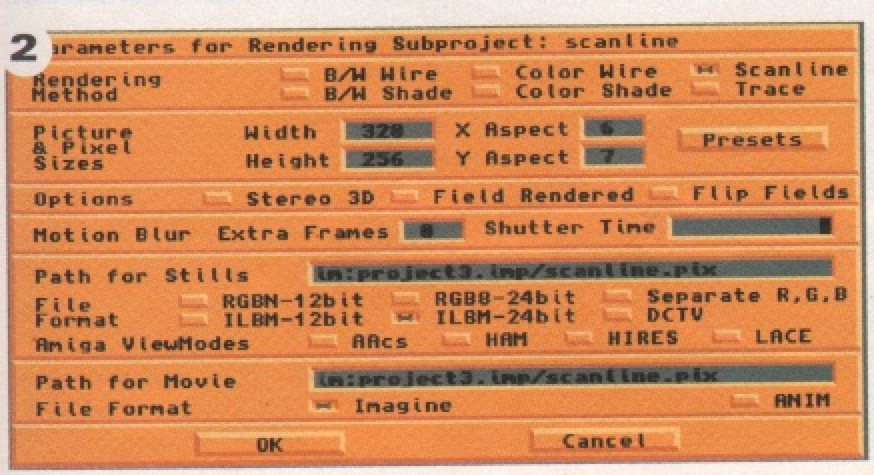
So far we've dealt only with the Detail Editor and used the QuickRender feature to see what our objects will look like. Now let's do some real rendering!

Quit the Detail Editor and go to the Project Editor. Now use the Project menu to open a file named 'Project3'. This loads the Stage setting and other Project attributes, such as the number of frames to render. You should see something like pic 1.

1


Now go to the Stage Editor. This is where the objects which make up the scene are positioned. In this scene there are only three objects: an aeroplane, a light source and the camera. The camera is what 'sees' the objects and when you alter the position of the camera, you alter what the final render looks like.

Your display will be slightly different, because by default the preview in the top right doesn't display the view as seen from the camera. To change this, go the Display pull-down menu, and make sure 'Camera View' is turned on. You might also want to change the setting from Wireframe to Solid or Shaded in the same menu. In the Stage Editor you can alter the position of any object in a similar way to the Detail Editor. You cannot however alter the shape or the attributes of the objects. To select an object, use Find requester. The easiest way to use this is to press Right-Amiga and F. Up pops a window listing all the objects in the scene. Select one, and then highlight it with F1. Now you can move it around, rotate it or scale it.

2




When you have finished, move to the Project Editor. If you have altered the positions of the plane, light or camera and want to keep these changes, you'll need to select the menu option 'Save Changes' from the Project menu first.

Back in the Project Editor, you now need to define a render sub-project. Each project can be rendered in different ways such as wireframe, scanline or full trace. Either open the project named 'Scanline', or click on the 'New' button to create your own sub-project. You'll then need to pick a name for your sub-project and choose some settings, such as those in pic 2.

Now you can start rendering. You'll need to click on the number 1 to select the frame to rendering, and then click on Generate. You're frame will now be rendered. When it is finished, you can view it by clicking on the Show button.

Introducing Light Sources

How and where to place lights in an Imagine scene is very important. Without lights, nothing will be rendered and all you'll see is black. You can make dramatic changes to your scenes by placing your light sources in different locations. In the previous project, we used only one light source, but it's common to use two, three or even more. This project will demonstrate how important it is to use light sources carefully.

From the Project Editor, load the project file entitled 'Project4a'. If you go to the Stage Editor you'll see this consists of a face object, a camera and a light source. The light source and camera are right in front of the face, and this means light reaching the object casts no shadows. When you render the image, you'll see that the result is very flat.

Now load Project4b. This time the light source is moved to one side, and so is the camera. The final render of the face object is full of depth and shade, and looks far more dramatic. In fact, it's too dramatic for most situations. We need to strike a balance between this and being too flat as in pic 1.

Here is a solution, using two light sources instead of one. Project 3c is more like a standard portrait photograph, with two light sources: one far away providing overall 'fill in' illumination, the other to one side to provide some shadow and detail. (pic 2)

Of course, there is no reason to stick to the rules! Project4d moves the light sources to somewhere which would be impossible in real life, for a creepy image.


1


2


3

Advanced Light Sources

Imagine can model light sources with varying degrees of accuracy. The default setting is more than adequate for illuminating a simple scene but sometimes you need a little more.

Although objects illuminated by Imagine's light sources exhibit shading effects, they don't cast shadows. In a large number of cases this approximation is fine: look at the faces we rendered for example. However, from time to time it is necessary to model shadows.

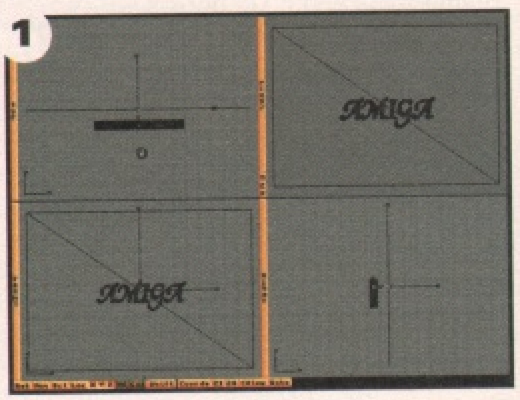
Imagine can do this by altering a characteristic of the light source. Whenever you create a light source in the Stage Editor, it's possible to alter a setting to make the light create shadows. The reason this isn't the default is that rendering shadows takes a lot longer than normal rendering.

Load up Project5 to see this in action. If you visit the Stage Editor you'll see that there are four objects: a logo, a flat plane, a camera and the light source. This time the light source has its shadows switched on. (pic 1)

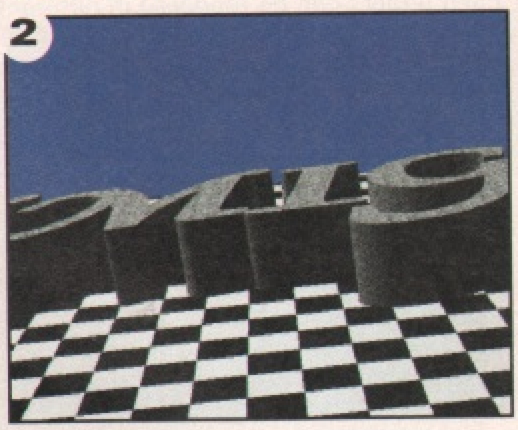
Return to the Project editor to rendering the image, and you'll see how it works. First of all, render the scene in Scanline mode. Although the logo is shaded, there are no shadows cast on the chequered plane. (pic 2)

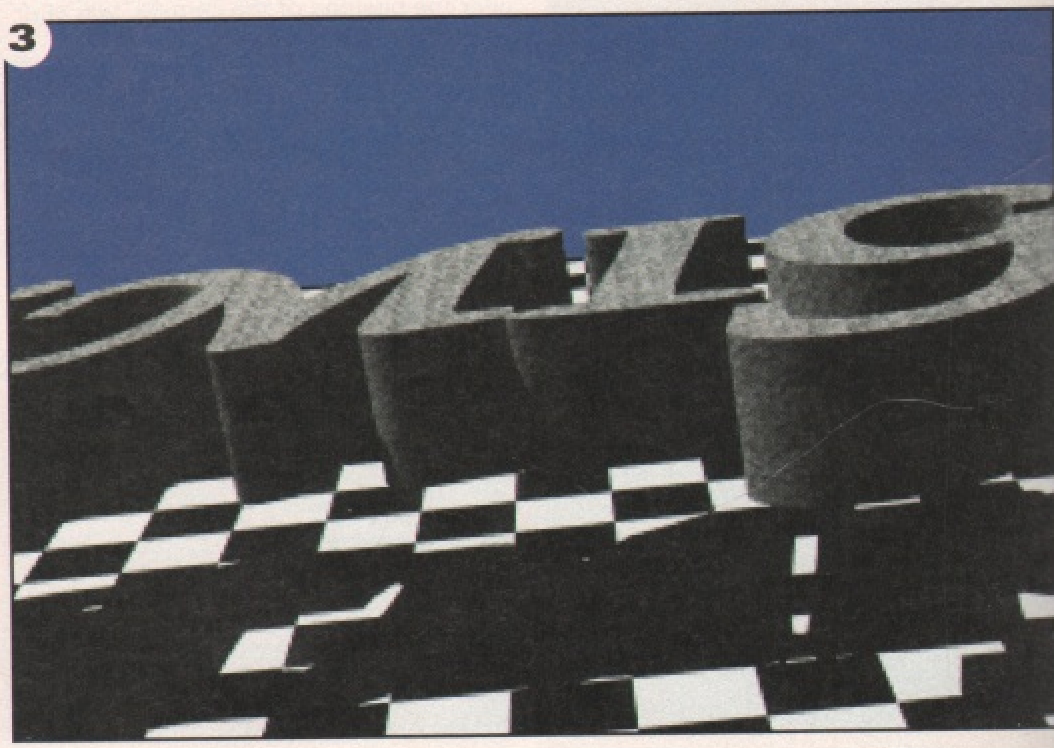
To see the shadows, we need to render in full ray trace mode. Create or open a new sub-project and make sure the Trace mode is active. Now render the scene again. You might want to make yourself a cup of coffee, as this will take time. If this is taking too long, or your Amiga runs out of memory, return to the stage editor and delete the Logo object. Load something simpler in its place, such as the rocket ship. (pic 3)

Imagine has a few more tricks up its sleeve when it comes to light sources. Not only can you alter their colour and adjust how shadows are made, but it's possible to apply textures to them as well. This can give the appearance of a light shining through blinds or coloured glass for example.

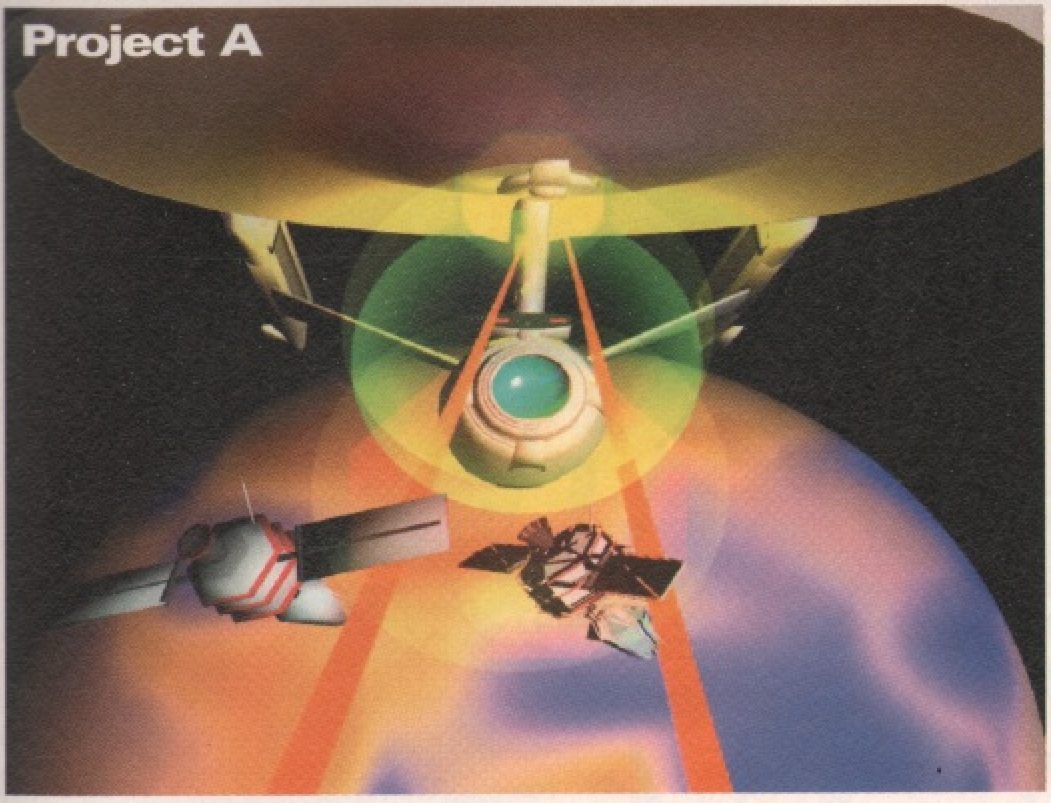


1

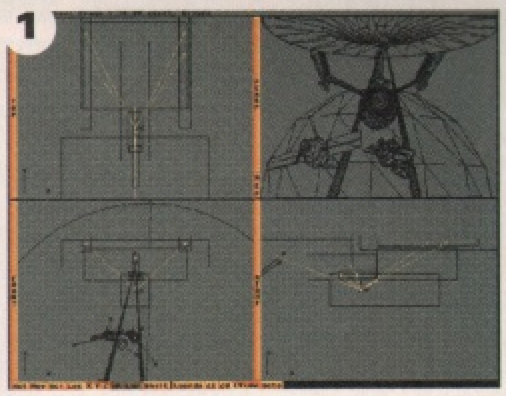

2


3

Project A



1



2

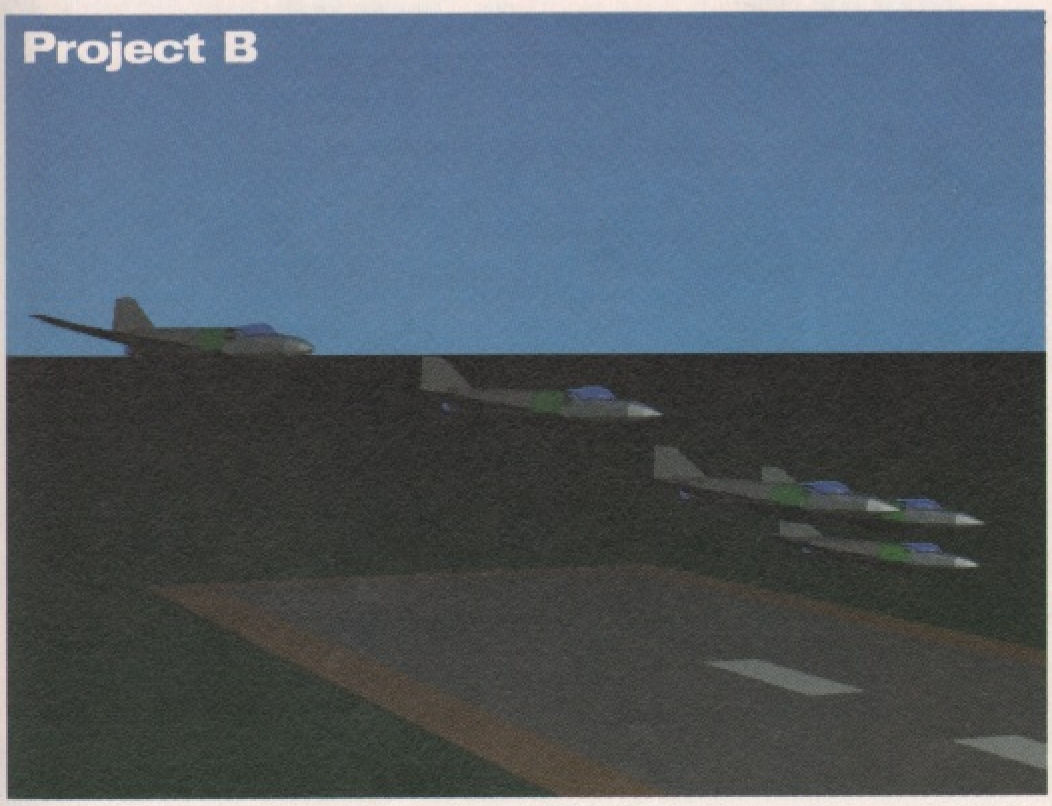


This is a scene with six main objects. Besides the camera and light source, there is a Starship, a planet, two alien spaceships (one exploding) and two phaser beams. You can see how all the objects are positioned from te Stage Editor display. Feel free to move the objects around and re-position them to give different views. (pic 1)

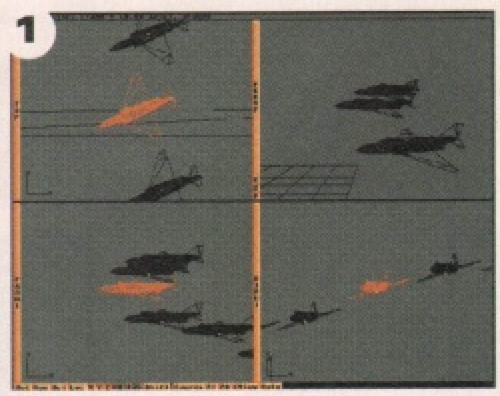
Key elements of the scene are the planet (a simple sphere given an Agate textures), the phaser beams (two semi-transparent cones) and the exploding ship. It's possible to apply the animation special effects to objects in the Detail Editor, as this is how the alien ship was made to come apart. (pic 2)

The final image you see here was rendered in Trace mode, with a global "Lens Flare" applied. If you render the scene in Scanline mode, don't be surprised when the planet becomes a little less smooth.

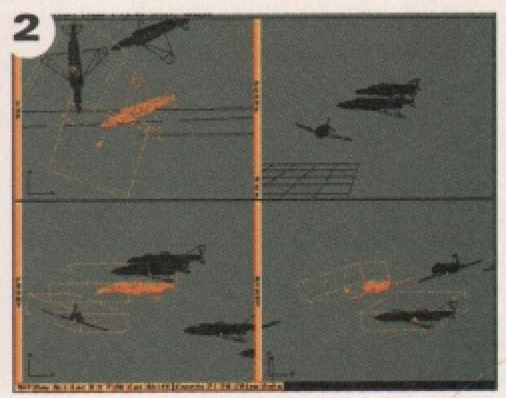
Project B



1



2



Here's a nice simple scene which you can have lots of fun with. It's an air display, complete with jets and runway. You should be able to jump to the Stage Editor and position the places exactly where you want them. By adapting the phaser beam from the earlier project, you should be able to create realistic smoke trails too. There is only one plane object define, the others are all "cloned" from it in the Stage Editor. This saves on memory, and rendering time. (pic 1)

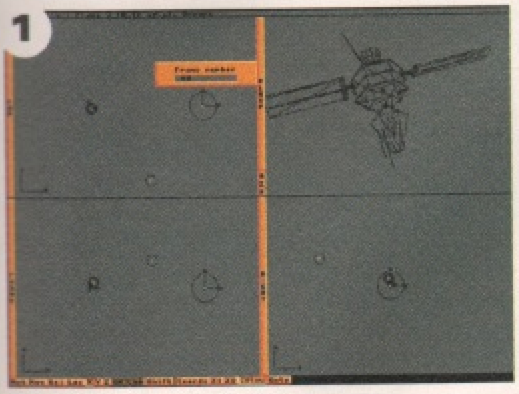
Each plane can be moved, scaled and rotated individually. If you want to move several at once, highlight one (press F1) and then hold down the shift key and select others. You can then manipulate the planes in a block. (pic 2) The ground is a special Imagine object called, surprisingly, ground. This object extends in all directions, although appears like a simple grid in the Stage Editor.

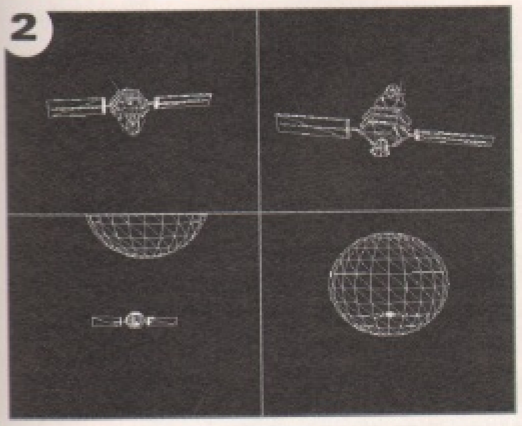


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Animation

Not only can Imagine create beautiful images, but it can render animations as well. To Imagine, an Animation is as easy to make as a still image: it's only a series of images played back one after the other, after all. To create an animation you create and edit your objects in the Detail Editor as before. Then in the Stage Editor you position the objects on a frame-by-frame basis. If you like, Imagine will move objects automatically, so you only need to set the start and end positions.







You set the number of frames in the Action Editor. Load up Project6 and you'll see an animation project which has already be created.

If you go to the Stage Editor, you'll now need to specify which frame you wish to see: there are one hundred frames, so enter a number from 1 to 100. You can visit any other frame by pressing Right-Amiga C and entering the new number. (pic 1)

If you would like to preview how the animation will appear, use the pull-down menu on the far right of the screen called "Animate", and select the "Make" option. Imagine will create a wireframe preview which you can watch over and over using the "Play Once" and "Play Loop" menu options. (pic 2)

When you are happy, you can return to the Project Editor. Load or create a sub-project, and select the frames you wish to render. The Range button is useful here, as it will allow you to select a large number of frames quickly. If you select ANIM format, you can load your finished animation project into Deluxe Paint or another other graphics program for playback or editing. If you are rendering a lengthy animation, it pays to create a Wireframe preview to make sure everything is in the right place. (pic 3)

Special Effects

Imagine comes with some built-in special effects to make your animations more exciting. It won't be long before you'll be able to create your own version of StarWars ...

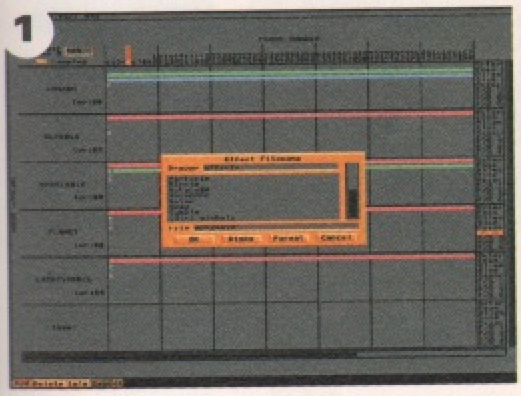
So let's begin. The Action Editor hides a host of special effects which can be applied to your objects. The effects act over time, so for example, it's possible to make your rocket spin slowly from frames 1 to 100 of your animation. You add effects in the Action Editor. (pic 1)

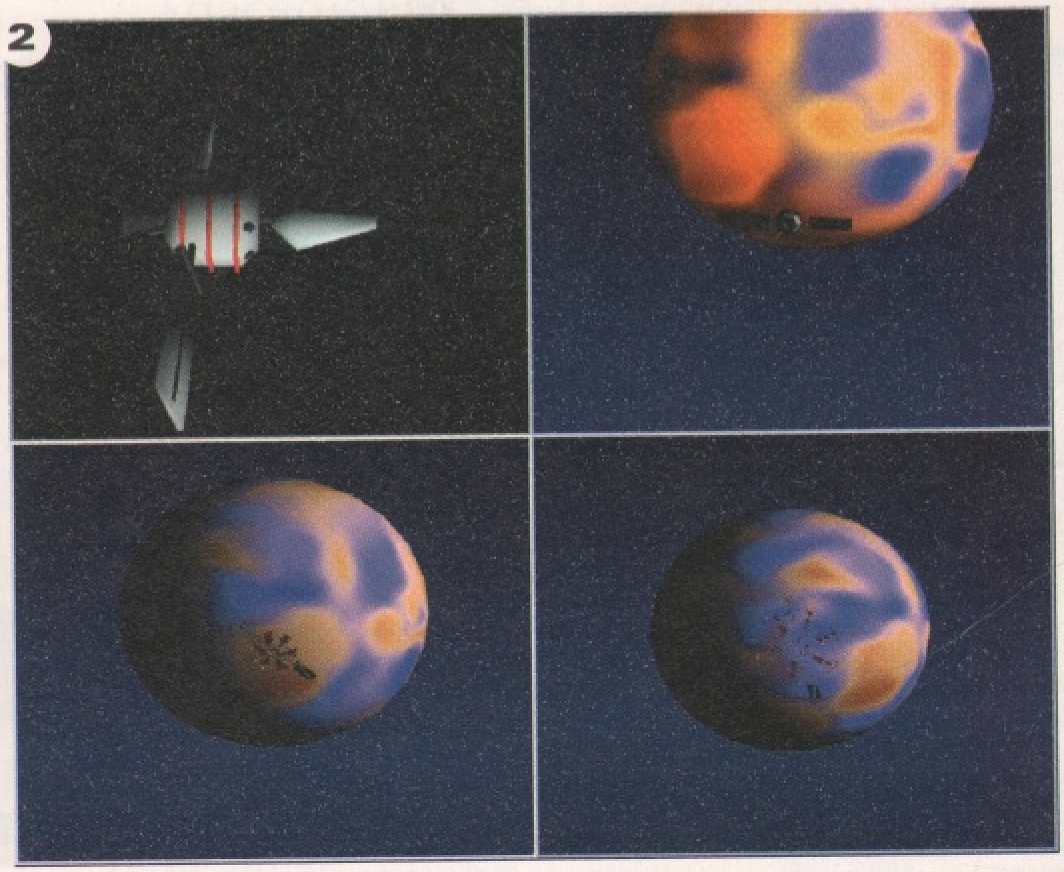
Load Project 7 and you'll see that the animation we used in Project 6 has been updated. Not only does the spaceship rotate and planet spin, but the hapless ship suddenly explodes too.

To do this, effects were added to the Action editor: one to the planet to make it rotate, and two to the spaceship: one to make it spin, and one to make it explode. A light source was also included for a frame or two, to make a momentarily flash for the explosion. Here are some stills from the animation: (pic 2)

There are plenty of different effects for you to play with. As with textures, there are multiple settings for each one, so there are thousands of variations to experiment with so have fun and a happy Christmas. If you still need help with Imagine 4 turn to page 78 now, where we are kicking off our tutorial series on this great package. ■

John Kennedy





Why Apple?



One day we may see the rebirth of the Amiga with a PowerPC processor and other new features to enable it to compete again with today's systems. Sadly though, more than two years since Commodore's demise, very little of substance has happened. We've seen prototypes and promises, but that's about it...

Perhaps some can wait for the final outcome, but if you need more performance, without paying the earth - and you need it today - there's one real alternative to consider now...

Only Apple can offer you both desktop and portable computers that truly match the ease of use the Amiga brought to your desktop. Affordable Apple Macintosh systems have PowerPC RISC processors with thousands of off-the-shelf programs available in areas where the Amiga was previously so strong.

And, if you need to have the most compatible of all computers, Macintosh is currently the only system that can run MacOS, DOS and Windows applications via optional DOS Cards or SoftWindows.

Why Macintosh?

Performance:

All Macs are PowerPC based (except PowerBook 190s). Even entry level systems run at 100MHz or 120MHz, with 200MHz powerhouses and 180 MHz multi-processor systems at the top of the range.

Apple is the only mainstream computer company who has been able to make the transition from the older CISC (complex instruction set computing) processors to the newer and faster RISC (reduced instruction set computing) processor technology - whilst still retaining full backward compatibility with previous software.

Remember 486, Pentium/Pro & 680X0 are merely CISC!

Software choice:



Over 1,800 native software packages (written specially for PowerPC Macs) have been shipped since Power Macintoshes were launched in 1994 - plus there are thousands of existing programs which can also be used. Industry standard programs such as Word, Pagestream, Word Perfect, Page FileMaker Pro, Excel, Quark Xpress, Photoshop and many others have all been developed for the Mac.

Creativity:



- Macintosh still dominates the creative world with an 80% market share in colour publishing.
- 65% of post-production video editing is on Macs.
- Macintosh is the most widely used system for the creation of Internet web pages.
- Most magazines (probably the one you're reading right now) are created on Macintosh.

The Internet & Communication:

- All Macs are Internet ready; many include a 28,800bps modem with full send/receive fax and answerphone management facilities.
- Industry standard web browsers, Netscape Navigator and Microsoft Internet Explorer, were developed for the Mac. Both give full access to all Web sites with new Internet page layout features like auto-tables and on-screen movies.
- The Internet's standard format for video files, called QuickTime (or QuickTime for Windows), was an Apple development. Of course it comes as standard with every Mac.



Connectivity & Expandability:

- All Macintoshes have networking built in as standard, so connecting systems together and adding shared printers etc. couldn't be easier.
- All Macintoshes have an external SCSI connector as standard (except Duos) - adding external drives, cartridge drives, scanners etc. really is Plug-and-Play.
- Low-cost digital cameras can be plugged into the Mac for instant real image input.
- Inexpensive industry standard PCI cards can be used in all Mac systems from the 5400 upwards.



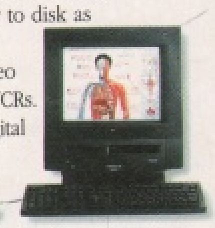
Education & Edutainment:

- Many quality Macintosh titles are widely available. Dorling Kindersley offer superb titles like The Ultimate Human Body and History of the World whilst Microsoft publish Encarta, Cinemania and Dinosaurs.
- Because Macintosh is the preferred system within many educational establishments, high quality software is assured.



Multimedia:

- Apple is the World's No. 1 Multimedia PC vendor.
- All desktop Macs have a fast CD-ROM drive as standard (portables get internal CD soon too).
- In 1995, 42 of the top 50 selling CD-ROM titles worldwide were developed on the Macintosh.
- Many Macintoshes have built-in TV with teletext so TV clips can be recorded directly to disk as QuickTime movies.
- Many Macintoshes have built-in video in and out, for direct recording to VCRs.
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Recreation & Games:



- Top games like The Ultimate Doom, Myst, Rebel Assault II, Dark Forces, Descent, Afterlife, Lost Eden, Legend of Kyrandia, Full Throttle and The Dig have all been developed for Macintosh.

Output & Presentation:

- Connecting and using colour printers (from Epson, HP, Apple and others) to Macs is so easy and the results are truly outstanding.
- Many software packages are available offering image manipulation and superb photo quality output.



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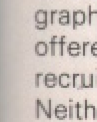
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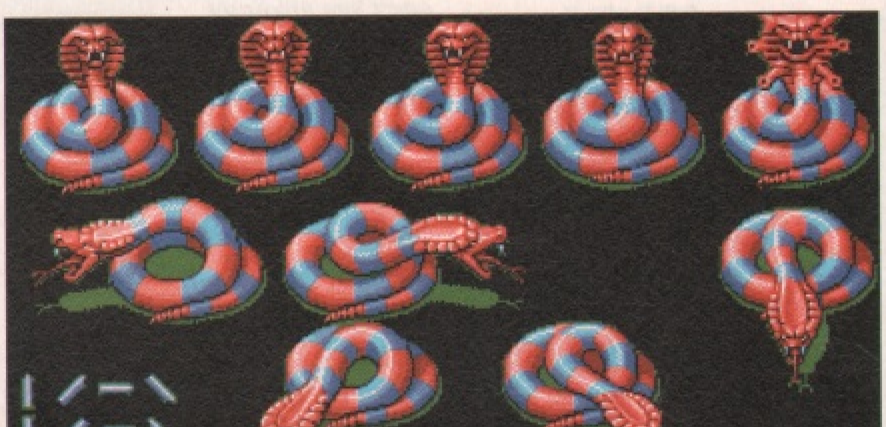
Computer Games

Are you mad about computer graphics? Fancy making a career out of it? It's a tough job but somebody's got to do it ...

Wouldn't it be great if instead of the normal nine-to-five grind, you could spend all day designing cool graphics for a hot new computer game or rendering special effects and 3D animations for the movies? Dream on, you might think but there's a whole host of computer graphics industries out there full of people doing just that and if you've got the talent there's no reason why you shouldn't join them.

Like most of the more 'interesting' career paths, computer graphics isn't a job that you'll be offered at your local high street recruitment agency or job centre. Neither is it something you're likely to be steered towards by school and further education. No, if you want to break into this you'll have to use the right side of your brain as much as the left. The good news is that you've already got the most important tool aside from your own talent: your Amiga. This is an ideal platform from which to present yourself, learn the ropes and move seemlessly on to a variety of alternative graphics development systems.



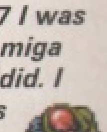


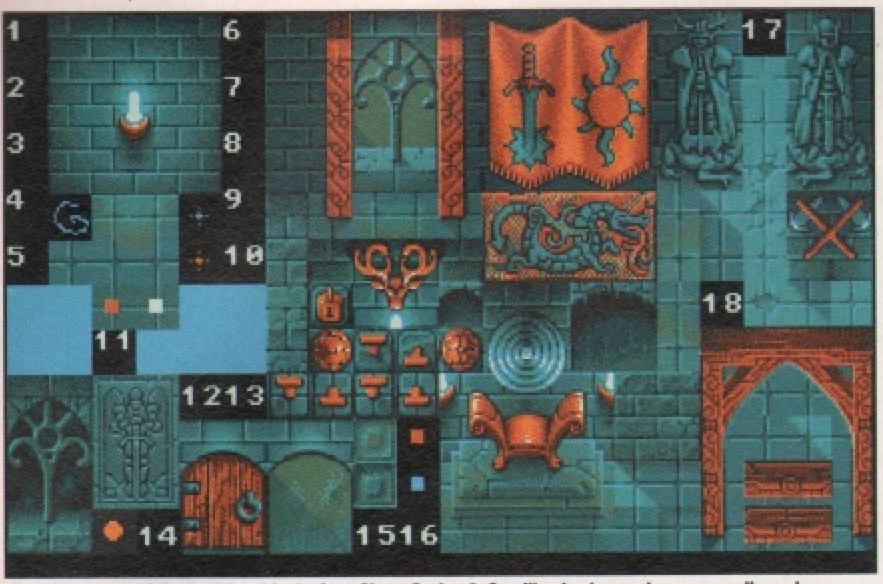
▲ 2D sprite-based games are still popular on the Amiga, although in general they look to be on the way out. However, basic graphics and animation skills can still be demonstrated with simple sprites.

In the first of a two-part feature we'll take a look at designing graphics for computer games. To get a true insider's perspective on the subject we spoke to Terry Cattrell of the Bitmap Brothers. The Bitmaps have just finished work on Chaos Engine 2 (reviewed in this issue) and have previously given us such Amiga classics as the Speedball and Xenon games, and are currently riding high on the success of their console and PC game Z.

CU: You're a highly successful computer graphic artist. How did you get into it ?

TC: ***When I was about 17 I was playing about with my Amiga and DPaint, as everyone did. I was going to art colleges but I wasn't really enjoying it. The girlfriend***





▲ Above: some of the backdrop blocks from Chaos Engine 2. Scrolling backgrounds are normally made up from these in order to save memory and keep the speed to a playable level.



with sent off a disk with artwork I'd done, and to nest it was pretty poor, but a company called Arc Developments [Forgotten Worlds, R-Type 2] took me on. Looking back the stuff was pretty ropey but they took me on from there. I was just going through a list of developers alphabetically. Arc happened to be first – I suppose Bullfrog would have been next!

CU: Would that be a good way to break into it now?

TC: *Yes. It's the only way. There's agencies set up but we don't use them because a) we have to pay them and b) they take a percentage of the person's wages.*

CU: What types of graphics skills are currently in demand from game developers?

TC: *3D is very big at the moment. 3D is the important thing to show that you can do. If you want to get into the games industry you have to know 3D. There are people in the games industry who don't know 3D and they're either being taught it or basically they're leaving the industry. If you can do 'low polygon' 3D work then you're in with a good shout.*

"If you want to get into the games Industry you have to know 3D"

CU: 'Low polygon': can you explain?

TC: *Say you were doing a character, a human, I wouldn't want to see any more than 250-300 polygons if it was to work in realtime on the hardware that's currently available. You couldn't use any more than that. You want to be able to texture map very well. That's not bump mapping, that's just straight texture mapping.*

It's best if you can show that you've got a knowledge of games. When I sent my disk out I sent map blocks, which at the time were right – everything was bitmapped, everything was 2D and that's what got me into the industry, because I had a fundamental knowledge of the way computer games worked.

CU: How about traditional sprite-based artists – are they still in demand?

TC: *There's enough people left over from the 16-bit generation to cover all that work. I can't see anybody taking anyone on just because they're a bitmap artist. There's not enough bitmap games to go round. Having said that, you can show that you know how to make something move realistically using 2D sprites but you won't make a career out of 2D anymore, not in this industry.*

"... get your work seen by as many potential employers as possible"

CU: What about experience of specific software or hardware – will a developer require an artist to have used a particular industry standard system?

TC: *Imagine has all the fundamentals like texture mapping, bump mapping, sophisticated modelling tools, everything you need. As soon as you know the principals you can apply them to any tools. Games is a very specialist area. It's difficult to take on traditional artists, say someone who is used to using Photoshop with 24-bit colour high resolution, it's useless to us because we're working with 256 colours, 320 x 200.*

CU: Are there any industry standard systems at all?

TC: *3D Studio on the PC and Mac. It's cheap and it's got all the tools you need for a game. Alternatively LightWave on the Amiga.*

CU: Are there different departments and specialists within your graphics team, or is everyone expected to be able to do a variety of graphics jobs?

TC: *We're fairly compartmentalised here. We have Colin*



▲ More from the Chaos Engine 2, this time it's a character sprite bank. Notice tricks like the shadows being incorporated into the sprites to avoid having to render a shadow onto the background.

Pretty polygon

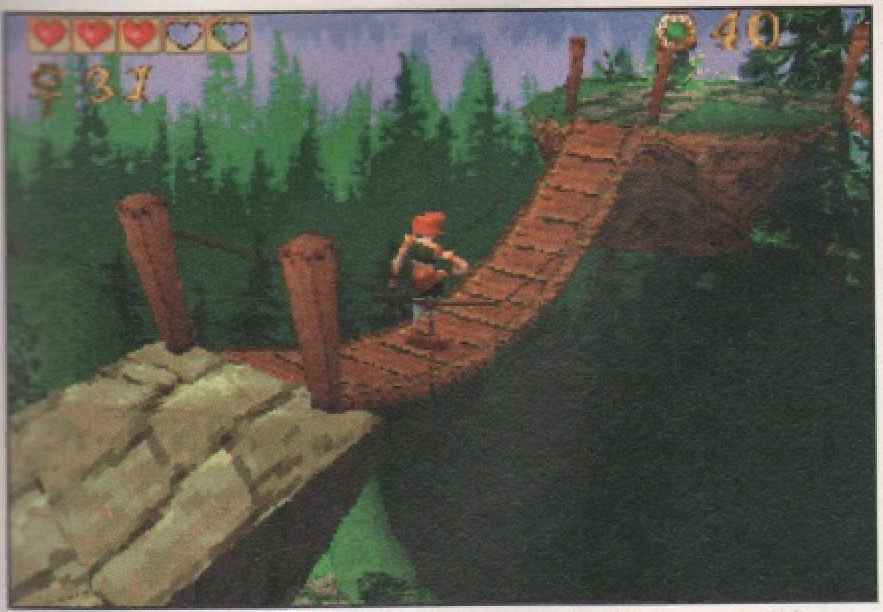
'Low polygon' is a term you'll become familiar with if you get a foothold in the PC or console games business. It refers to the economical but creative use of polygons to create an impressive 3D object which is simple enough to be moved around the screen at speed in realtime. If the models are too complex, the game will slow down or other sacrifices will have to be made to compensate, which will inevitably lead to compromises in the gameplay.

An artist with particularly refined 'low polygon' skills would be an asset to any developer working on 3D games, so it's a skill well worth acquiring. This picture shows Mario in his new Nintendo 64 incarnation. As 3D models go, his is quite detailed, although there is a trade off with the absence of any texture maps. The secret is to simplify the object as far as possible and make every polygon count. Good animation can do wonders for bringing a simple character like this to life. Traditional animation techniques can be transferred from 2D cell animation to 3D models with a bit of thought.

This will not be a familiar practice to many Amiga 3D artists, as realtime rendering has never been much of a reality. However, Imagine 4 from this issue has all you need to give it a try. Once you've mastered static low polygon models you can start animating them. Your finished work can then be output to standard video tape for submission to your chosen game developers.







▲ Economical but artistic texture mapping skills are required for many of today's 3D games. Combining very simple polygon-based objects with cleverly designed texture maps allows for fast, good looking 3D games.

who's a really good animator, Doug who's good with models and textures and I kind of bridge the gap between them.

CU: What about qualifications – is a string of A levels and degrees going to help?

TC: *Qualifications really don't exist for the computer games industry. I don't know an art teacher that would be able to teach you how to design a sprite. I certainly don't know one that would know anything about polygons. When I'm looking at stuff, it's the pictures I see – I certainly haven't got a qualification. The images are all important. You can learn so much more actually doing what you're supposed to be doing. You're in at the deep end.*

> **"Qualifications really don't exist for the computer games industry"**

CU: Once you've got some examples of your work prepared, what's the best way to present them to a potential employer?

TC: *We much prefer to get a video tape. It shows they've got access to the equipment to do that kind of thing, it also shows they know what they're talking about. We just put an ad out recently and when we came in there was a pile of applications. The videos came first, the disks had to wait until I'd had my lunch and a cup of coffee! Make it as easy to see your stuff as possible.*

So, there you have it. The main thing to do is get your work seen by as many potential employers as possible. Don't expect many responses, especially if you're sending out graphics on spec. You might get lucky with your first efforts but it's likely you'll need to keep submitting new examples to all your favourite developers over a period of time before something comes up. If you're known as "that guy who sends us graphics every fortnight", when a vacancy does arise you'll be one of the first they'll contact, so long as your graphics are good enough of course. Remember to keep your presentations neat and to the point. Make everything as easy to view as possible – that means no obscure picture formats or archives.

Remember the people you are applying to will generally be very busy just doing their job, so don't give them excuses to throw your work straight out of the envelope and into the bin!

The Bitmap Brothers are currently fully staffed up and are not looking for any new artists, so please don't bombard them with job applications!

If you've got the talent combined with the determination to get into the industry, persistence will eventually pay dividends. Let us know when you hit the big time! ■

Tony Horgan



Coming soon

Tune in next month for part two, in which we'll be looking at how budding 3D animators can get into the advertising, TV and movie game, exploring and exposing the workings of these fascinating industries.



It's Time for a Change of Gear

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At long last there is a new, and extremely powerful, C compiler for the Amiga, at the right price. HiSoft C++ has two versions, Developer and Lite; here's a brief list of features:

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- The Editor uses multi-windows, is syntax-sensitive, handles as many files as you like, includes an ARexx interface and supports full keyboard shortcuts.
- The C/C++ Debugger (Developer only) uses multi-windows, with drag-and-drop technology, allows breakpoints, variable tracking and much more.
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Screen Scene



I'm delighted to see 1996 out with some fine game reviews. Chaos Engine 2, for one, was well worth the wait. And Andy Braybrook drops in as well. It's all too much!





The Chaos Engine 2 36

Interview

Previews



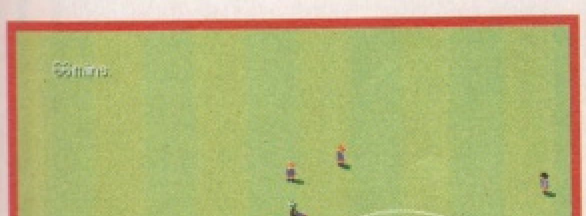
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Tips & Guides



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Minskies Furballs



■ DFR: December ■ Publisher: Guildhall Leisure

✆ 01302 890 000

I know that it's good form to reserve printing any final judgement on a game until it is fully finished but we can't help it. This game is brilliant. Lisa is obsessed by it, she's been spending hours in front of her screen desperately trying to get all the little coloured cats linked up in blocks of four or more. Think of Tetris, think of Kirby's Avalanche on the SNES and you've got Minskies Furballs.

The aim of the game is simple, you've got to line up four or more cats of the same colour and they will explode. The more you get to link up and explode the more objects your opponent is sent to destroy. It's fab and we can't wait to get the full version into the office. Binary Emotions, the behind the game, brought peris Legacy earlier this r so CU Amiga Magazine e keen to find out more about this latest venture. We caught up with Ian Jolly, Binary's Project Design Co-ordinator to find out more.

CU: How did you come up with the title, Minskies Furballs?

Ian Jolly: "Originally, it all began when we put together comic style, pocket books which featured all the cartoony characters from both Speris and Minskies.

CU: Why did you choose a game like Tetris to emulate?

Ian Jolly: "We always wanted to do some of the most classic games of all time particularly because we think the Amiga is best suited for this. That's why we did Speris, because of Zelda naturally. With Minskies the whole game revolves around the original Tetris of course, but we're happy that it already has very good playabilty and that our version is very unusual (which is a good thing in these days). It's more of a hybrid of a great ageing classic. This time, rather than bricks, the cats provide the key to multiple connections."

CU: What should we expect to see in the finished version?

Ian Jolly: "In the full version, we will have approximately 11 levels, 11 characters, a two-player option, a range of assorted weapons, a fruit machine, championship modes, a ray-traced intro, end sequence, six stereo soundtracks ranging from ambient to techno and lots of crazy sampled speech for each character".

CU: Didn't you hint at the possibility of a multiplayer four player link up?

Ian Jolly: "Yeah, if isn't already included on the game's release, then we'll offer it as a free patch to registered owners."

Minskies Furballs should be available for both AGA and ECS machines. Watch out for the review next month. ■

Mark Forbes





▲ We can't wait to see this in the office next month for review.

Gun Fury

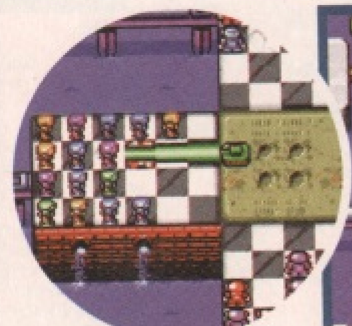
■ DFR: December ■ Publisher: Guildhall Leisure

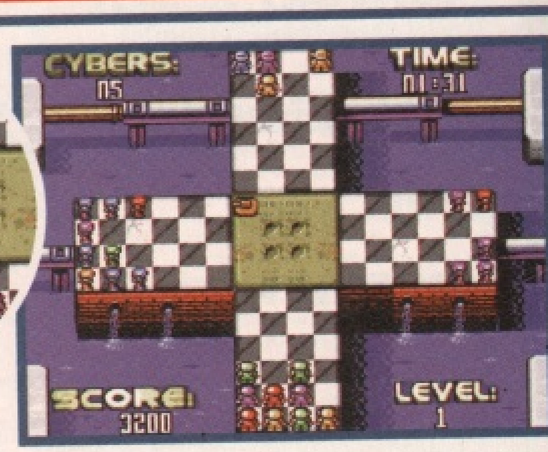
✆ 01302 890 000

Remember Vision Software from New Zealand? They did the marvellous overhead chopper shoot 'em up Seek and Destroy and a great PD version of Defender. They also did quite an unusual shareware game called Microbes. Binary Emotions have borrowed a bit from this latter game and have come up with Gun Fury the 'thinking man's shoot 'em up'.

Gun Fury is set to be more than just a puzzle game but a progressive shoot 'em up that just gets faster and faster as you go on. In Gun Fury the action begins with the player controlling a tank in an area in the centre of the screen. This tank must protect itself from an oncoming onslaught of marauding aliens. It's not all just about shooting things though, because each of the aliens are coloured green, red, purple, yellow or blue as all have their own colour and when you shoot either one of them your tank becomes the colour of the last one, enabling you to shoot it and so on. I know it sounds confusing but believe me when you play it for the first time it's so easy to get into.

In the playable demo there





was only several small levels to play, but the full version promises 30 at least. There are weapons for both the tank and the aliens, in fact the full game will allow the enemies to hold special guns which Binary Emotions say will perform a multitude of crazy things.

Gun Fury looks great at this stage. The player's tank is fully rendered, including the enemies which behave in realistic 3D with nice music and some neat speech effects. It has been in development for well over a year and a half and when finished should work on all Amigas with 1Mb. There is also a possibility of a CD version.

Even more interesting is that Binary Emotions is convinced that Gun Fury is so good that they are working on a sequel already! We'll have to wait and see what it's like in action next month. ■

Mark Forbes

Euro League Manager

■ **DFR: December** ■ **Publisher: Manyk**

✆ **0181 542 2687**



Are Manyk treading on dangerous ground or making a shrewd business move? With Champ Manager 2 "almost upon us" (we've been hearing that one for a few months now!) is it wise for a company who brought us the Doom clone Fears to be venturing into football management simulations? I think it is.

Firstly, I'm beginning to doubt if we're ever going to see Champ Manager 2. I mean, just how long does it take to put a game together? Maybe we'll never see Manyk's Euro League Manager either but it's more likely to appear than CM2 as the copy we received was almost finished.

Also, historically, you can't go wrong with a football management game if you're a software company. Or so it seems. Even the less polished ones sell extremely well and hang around the charts much longer than other more deserving (in my opinion) titles. Perhaps this is why Manyk have decided to diversify and produce a footy management game. Either way, without delving into the psychological reasoning behind it, they're sure to do well with a footy management game. And as it's due out just before Christmas Champ Manager 2 fans might get fed up waiting for CM2 and opt for this game instead.

Euro League is carved out of the standard football management game tree. All the familiar options are there such as team selection, player statistics, ground enhancement facilities as well as your friendly banker, coach and scout. And If you don't want to go the whole hog there's a part exchange option where you can buy/sell a new player as well as a cash deal.

The choice of leagues will include an English, Italian, French and a 'special' Euro fantasy league. The version we saw was easy to get around and I appreciated the option to speed up the matches. We should have a review next month (I doubt I can say the same for CM2). ■

Lisa Collins



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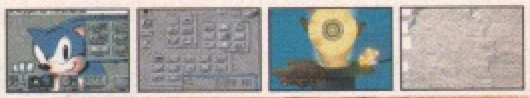
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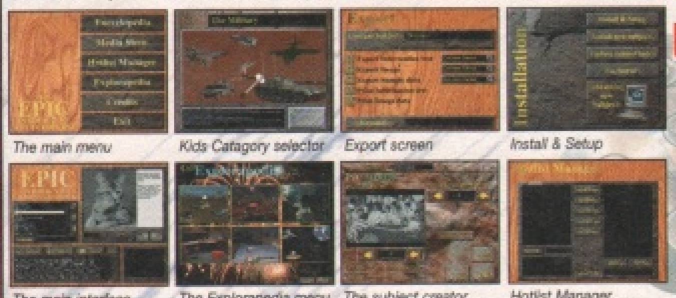
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The Chaos Engine 2

■ Price: £24.99 ■ Publisher: Warner Interactive ✆ 0171 391 4300

AMIGA SUPERSTAR

We waited ... then we waited some more ... and then, as if by magic, the game appeared. Yes, it's true — The Bitmap Brothers have finally returned. And how!





Ah, The Chaos Engine. Decidedly one of the flagship titles from the Amiga's haydays. And, I feel, one that was left with a very "To Be Continued..." feel to it. Yes, after all this time, after all the changes to the Amiga's ownership and market, the sequel is finally upon us – authored by no less than the legendary coders, The Bitmap Brothers.

So what of The Chaos Engine? Well simple really. As the twisted remains of the heart of the Engine exploded, the face of evil Baron Fortesque (boo hiss) appeared, spoke and faded. The scientist steps forward and, after examining the wreckage, concludes that the baron has escaped and the only way to catch him now is to use the remnants of the machine to follow him; back through time...

Crikey!

Indeed. And so it is that the Gentleman, Brigand, Navvie and Mercenary find themselves trapped within the Chaos Engine, with escape only possible by helping the Baron rebuild the engine. However, the Baron will only reward the character that helps him the most with their freedom, so it's a competitive game, pitting character against character as they attempt to accomplish the tasks set by the Baron. Whoever has the most points when the fat lady sings gets out. And for the others... DEATH! Good stuff, eh?

On paper the idea behind the gameplay is a simple one. Each of the twisted engine-built worlds has a number of levels to work through. On each of these levels you have to collect a set number of special items to earn a key to the exit. Along the way you'll be solving puzzles, killing various monsters and collecting lesser items for points and, once through the door, have all of the above added to your overall score. Ah, but then there's the OTHER player to worry about!

A whole new world!

There are a variety of levels and worlds to play through in Chaos 2, each with their own unique graphical look and feel, and relevant baddies and objects. Though the idea and content remain the same no matter what the level, the levels do play very differently simply due to the changing attributes of the enemies, the designs of the later levels and the larger number of objectives for each location.

You might initially think it's all a bit too straightforward and linear, but believe me, once you get through the first few levels you'll have much more to worry about than simply shooting your opponent and getting through the door first!



Future World: The starting world acts as almost a training world (although training should never get so tough so fast!) and is particularly nice to start on as the layout tends to be very clear and obvious. As with all the worlds there are tons of pressure pads to trigger, doors to open, rooms to explore, switches to, er ... switch, and baddies such as robots, mad scientists and MORE robots to fight. The main objects to be collected on this world are circuit boards.



Mediaeval World: Here in the Mediaeval World the main collectible objects change from circuit boards to potions, but the theory behind it (Chaos theory, perhaps?) remains the same. The puzzles, however, start to come into their own on this world, with much more jumping between levels, and good use of power-up icons becoming necessary to mess up your opponent's progress. You've also got a large number of knights and serfs to compete with here. Grr, let me at 'em.



Aztec World: As you'd expect from a world filled with secret temples and religious icons, the Aztec scenarios are heavily trapped and chock-full of puzzles. The main objects you're looking for here are large crystal gems, but you're not the only one on the jewel hunt, as large jaguars attempt to creep off with the goods while you and your opponent bicker over power-ups and health! Watch out for bats hiding in the walls and various Chaos creatures roaming the tight corridors.







▲ We've got some likely-looking geezers here.

Two can play

Yes, it's split-screen shenanigans ahoy, as you compete against either a second human player or a (bloody intelligent!) CPU-controlled opponent. And what fun! Just when you think you've collected the necessary objects, along comes Johnny Amiga, who shoots you in the back and nicks all your items! Of course you can do the same back, or – if you're feeling particularly clever – make use of the various power-up icons that appear around the level. Trap doors (anyone remember Spy vs Spy?) turn invisible, teleport the annoying sod all over the shop, and even freeze him to the spot while you kick him in!

Looking at the screen shots you might be tempted to think that being able to see your opponent would spoil the surprises in store, but the reality is that you're generally too busy to watch what they're up to, and because the level decor is consistent, even if you do take a peek, you're not always sure exactly where they are anyway.

Good show

Probably one of the most commendable things about Chaos 2 is the fact that, though it works at its best as a cracking two-player game, the single-player game is just as absorbing and thrilling. Of course, you'll never enjoy trapping, tricking and cheating a CPU-controlled character as much as a mate, but believe me, you'll shout and swear with just as much fury when the CPU does you up like a kipper!

So there we are, after all this time; Chaos Engine 2 — an excellent game that proves the Amiga is still capable of producing products the 'wonder-consoles' and PC snobs will only ever be able to dream of. Cool.

Instruction

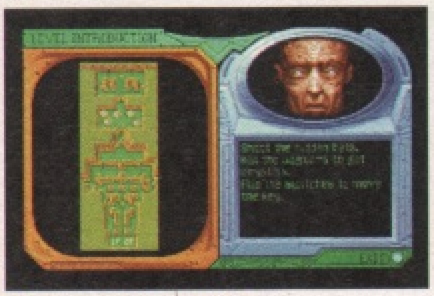
Before each level the Baron's face appears to tell you about the task that lie ahead for the coming match. There will usually be a number of different sections to work through in order, with the completion of one opening the door to the next.

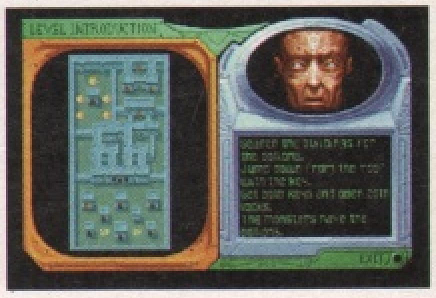
And remember; it's not just about who gets out first, but who has the most points, so don't think you can let your opponent do all the work and then simply nick the key at the end — you're gonna' have to get your hands dirty too! ■

Matt Broughton



Chaos World: The warped Chaos Engine spews out its final scenario, including tons of damn-confusing teleportation, and weird organic creations that must be used to travel from one area to the next. It all gets a bit like the Techno-Adams Family at points, with huge automated robot 'hands' chasing you around, along with one-eyed, er… lizard-things! The much sought after items here are batteries. And then there's the end section to get though … but that would be telling!





▲ And the mission for today is ...

Toys 'r' us!

Comparisons with aged classic, Spy vs Spy, are only further reinforced with the inclusion of special icons that equip the player with various traps and special abilities. There are initially only a few of these to play with, built as the levels progress and increase in size and complexity, each icon found becomes that much more precious. What say we go have a little look-see at but a few of the toys on offer?



Teleport: The little phone offers not the opportunity to call friends and family at cheap rate, but in fact teleports your opponent to that location a second or so after being dropped. This is superb fun if you're racing to the exit, as you can drop it on-route and cackle in a demented fashion as your nemesis gets transported back round the corner just as he thought was about to get through that all-important final door. Great.



Duplicate: An excellent 'confuse-your-enemy' toy that creates a clone of yourself that acts and thinks for itself. This is best if being chased (ie if you've got all the objects or a key) and you come to a split in the route. Drop a clone and watch as your opponent chases the empty-handed dupe around the level! Best against human opponents (who you can then laugh at when the copy dissolves).



Freeze: This is very good for taking control in a room full of creatures or for stealing keys without the risk of injury. Let this little icy-pop off and everything on the screen gets frozen solid for a few precious seconds. Particularly excellent for thwarting annoying little gits who like to wait for you to pop open the final door, then shoot you in the back and run through first. "Eat my Hotpoint, pants-face!"



Trap: Probably the most 'Spy vs Spy' item in the game. Once activated, this icon 'traps' all objects on that screen (ie switches, doors, objects, etc.) This is a good for last ditch attacks if your opponent has all the items and keys, as you can rig the final door, hide around a corner (or turn invisible if you have another of the icons) and then run out a take the lot when he tries to unlock the exit (in a puff of smoke, I might add!)

THE CHAOS ENGINE 2

workbench version	1.3
number of disks	3
RAM	1Mb
hard disk installable	yes

A500 A500+ A600 A1200 A1500 A2000 A3000 A4000

graphics	90%
sound	90%
lastability	89%
playability	91%

OVERALL
Totally brilliant single or multi-player game. **90%**

Sensible World of Soccer '96/'97

■ **Price: £24.99 (£9.99 upgrades)** ■ **Publisher: Warner Interactive © 0171 391 4300**

AMIGA MAGAZINE SUPERSTAR

Egads! Another SWOS update, you say? Well flambe my hobnobs if these don't come along more often than the 38 bus to Good Time City.



▲ Sensi: the king of football games on the Amiga. You just can't beat can you?

Ah, but this feels good! It's been too long since I wandered up to my Amiga room like some sad-but-happy old bloke trundling down to his allotment shed. It really is the only way to be; lock away the harsh realities of telephone bills and responsibilities, load up ye good olde SWOS, and get into some seriously week-wasting career. Yes, we're here again in familiar territory my old chums, with that reassuring ache in the wrist (and you can keep your dirty comments to yourselves, thank you) and the knowledge that the moment you lose concentration you'll be relegated from managing the mighty Arse' to cleaning the urinals with a toothbrush for Southend United. But that is the good thing about SWOS and indeed the legacy of Sensible Soccer as a whole; you can leave it alone for a year, but the moment that menu tune plays out, a surge of nostalgia-fuelled adrenalin floods through the body, and the detail of every little cheap shot and set play comes as naturally as it ever did.



So why exactly are we here again? Simple — it's time once again to update the teams. If you're already an owner of SWOS then you can simply pick up the upgrade for a tenner, of should you be a Sensi virgin then now's the chance to open your mind ...

There's only one

To be honest there's really no point in going over ground that, to be frank, we've already kissed quite enough times already thank you. Many pretenders have tried to draw us in in the past but there'll only ever be one true footy game as far as most of us are concerned and that's Sensi. Having evolved from the simple-but-intricate kickabout that

Sensible Soccer was to the deeply involving strategy/arcade/simulation of Sensible World of Soccer, we now find ourselves faced with the near-perfect formula that needs no improvement, simply an occasional update to avoid falling behind (and let's be honest, it was getting hard to take Manchester United seriously with Cole up front!)

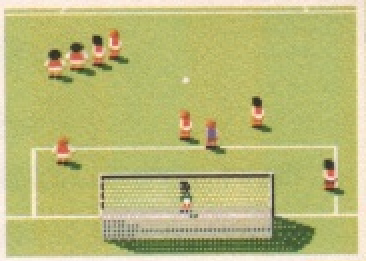
Kick off

Time for a new career methinks. And look; Arsenal are as up to date as any Gunners fan could want. Hartson and Helder wait patiently on the bench hoping that someone better gets injured, while new-ish right-winger, Vieira, snuggles in amongst some of the Premiership's most matured players – all fronted by the stunning-this-season Ian Wright. Okay, let's get going ... but wait! What's this? Surely not a new option in SWOS? But it is – in the guise of a training facility. However, unlike many management games, this isn't to improve your players' stats, but instead a chance to play against the sub-filled Arsenal B Team, making changes to both sides as you go, and checking out possible A Team inclusions. (Oh yeah – it's also pretty handy for warming up if, like me, you haven't played for a few months!)

And we're off – albeit after a quite training match to soften up those knuckle joints – straight back into the familiar embrace of hour after hour of crowd-accompanied footy joy. It's all as it was when we first discovered SWOS, with bending passes being used to lead players forward, new-improved goalies, and the welcome addition of heading CPU teams. If you want to get REALLY anal, you can still set up your own tactics and formations, but as is always the case, the best fun's to be had with a gang of mates and a good old fashioned knock-out league.

And there you have it. Still the best football game ever. Still worth playing never mind the rendered and motion-captured pap the 'wonder consoles' are putting out. And STILL as captivating and addictive as it ever was. Did you expect anything less? I didn't think so ... ■

Matt Broughton





▲ Anyone for an update? Going cheap at just £10 for SWOS owners.





SWOS 96/97

- workbench version.........1.3
- number of disks 2
- RAM..............................1Mb
- hard disk installable ......No

Machines: A500, A500+, A600, A1200, A1500, A2000, A3000, A4000

graphics	91%
sound	90%
lastability	95%
playability	95%

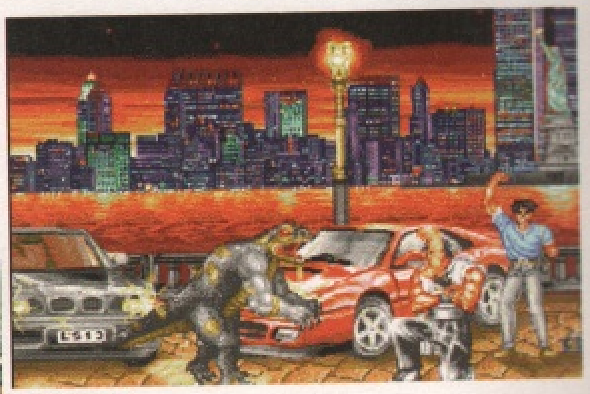
OVERALL Still the best football game for the Amiga. **95%**

Fighting Spirit

■ Price: 79.90DM (£36 approx) ■ Publisher: NEO (see box out)

The best attempt at a Street Fighter clone on the Amiga is here. So, choose your weapons now.

Get it here
Currently, Fighting Spirit is only available from:
Neo Software Productions Gmbh, Business Park Vienna – Bauteil D1
Wienerbergstr. 7.7.OG
A-1100 Wien, Austria.
Tel: + 43 1 60 740 80
Fax: + 43 1 60 740 80 6
Email: neo@info.co.uk
WWW: http://www.info.co.at/neo





▲ Fighting Spirit is the closest we've come to Street Fighter on the Amiga.

There have been a few unsuccessful attempts at reproducing a Street Fighter clone for the Amiga. US Gold's version failed dismally in the graphics and speed department while Gametek's Paws of Fury was too limited (in movement and in choice of characters). I mean, can you really take a cute bunny rabbit dressed up in a pajama suit seriously? However, I'm glad to say that Italian programmers, Light Shock's Fighting Spirit is not bad in the graphics department and the characters are tough enough to be believable.

Teamwork

So good, so far but is it anywhere near Street Fighter in the playability stakes? I think Fighting Spirit is the closest we've gotten to Street Fighter on the Amiga in a long time. All the essential elements are there. You've got ten fighters to pick from, each with their own barrage of special moves. You can play against the computer in story mode, a friend or friends in battle and tournament mode. And the team match option is a bit special as you get the chance to put together your own crew and pit them against the computer or a friend's team. You can also choose to have up to three times the number of team members as your opponent which is handy.

Sounds great so far. However, one of the problems I found with Fighting Spirit is that it is possible to get through the game using the same character's special move. For example, I found one character's special move floored and drained any opponent within seconds. It is tempting to do this to get through and might stop you mastering some of the other players special moves. This technique also worked on the harder modes and different speed settings. Another problem is that some the characters are a little bit jerky and the intro music is a bit too chirpy and boppy for a fighting game and doesn't do much to psyche you up for battle.

There are some great touches in FS though. Apart from being the best-looking SF clone, it's probably the fastest. It belts along even at normal speed. The blood option is OK though it won't satisfy the more bloodthirsty amongst you. There are bonus matches thrown in and some interesting 'special' players crop up every now and then. You can access these and the big end boss, Jenshi, using a special cheat but I'm not telling you that here.

So close

Overall, Fighting Spirit is a decent fighting game and is the best SF clone I've seen on the Amiga. Character control is good and the special moves are easy enough to master. I had some problems with the game crashing but the programmer assured me that this was due to my disk being faulty. I would have given it a higher mark if the price was a bit more in line with standard Amiga games. Those looking for a Street Fighter clone on their Amiga should look here first. ■

Lisa Collins

Move it

Meet the gang cos the boys (plus one girl) are all here. Yes, they're here to entertain you with their special moves. Pull up a chair.



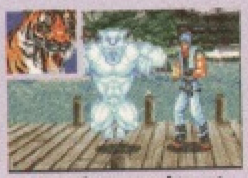
▲ Kento hails from Japan and is well versed in oriental fighting techniques including this fiery one here. What a scorcher!



▲ Eric's ambition is to 'travel by bike with a beautiful woman'. Hmm yes. His moves include this fireball fart-like one.



▲ Burke is one evil mercenary who went to the school of hard knocks. His best move is the scorpion fist (not shown here).



▲ I nearly managed to get through the whole game using one of Rhajang's special moves: the Wharlus attack shown above.



▲ Lorentz's mortal puma is enough to put the frightners on anybody. His schizoid personality is supposed to do him wonders in the game.



▲ The only girl on the block, Sheila (who incidentally was Kento's fiancee) has plenty of watery moves. Here's the dolphin one.



▲ The wise old indian Shudar has Yadon on the run as he uses his special ring of fire move. His monkey attack move is also useful.



▲ Tong Lee looks a little off colour in his special Dread Tiger mode. But it does the trick anyway. Anyone frying tonight?



▲ This slimy reptile, Yahoo, is in need of some Listerine. His Caox flame is enough to floor anybody. Pass the fresh mints please?



▲ One of Yuri's moves feature the tip flying off his cane immediately spearing his opponent. Poor old Rhajang got it here.

FIGHTING SPIRIT AGA

A1200 / A4000

workbench version	AGA
number of disks	5
RAM	2Mb
hard disk installable	yes

graphics	80%
sound	70%
lastability	80%
playability	85%

OVERALL
The best SF clone yet on the Amiga.
83%

Reach for the stars

Andy Braybrook, famed for classics such as Rainbow Islands, Paradroid 90, Fire and Ice, Uridium 2 and Virocop, talks to CU Amiga.



▲ Games guru Andy Braybrook was the man responsible for some of the best classic Amiga games.

Name: *Andrew Edward Braybrook.*
Age: *21 (yeah right!).*
Born: *Sunny Chelmsford, Essex.*
Occupation: *Development Manager of Graftgold.*
Biggest Success: *Rainbow Islands Amiga conversion.*

CU: ***What was your first involvement in the computer industry?***
AB: "My first job in the computer industry was as a COBOL programmer, in 1979, after I left school. My first game was written in my spare time on the mainframe in COBOL. It was called Space Chase. We used to play a Star Trek game on the system and once we could beat that every time we needed a new challenge, so I wrote my own.

CU: ***When was your finest hour at Graftgold and why?***
AB: "1989 was an important year for me at Graftgold. I finally moved onto 16-bit machines from the C64 and my first project was to convert 'Rainbow Islands' from the arcade machine. I had waited for a long time to get to grips with 68000 programming, as all our publishers thought the Amiga and Atari ST were just passing fads and Commodore 64s would be around forever. We tried to tell them!"

"Games of the 80s were much more playable than their counterparts now!"

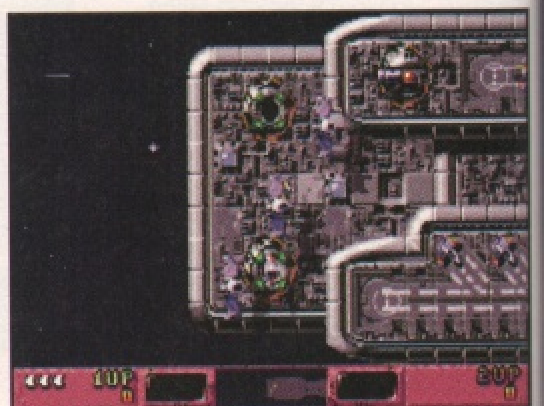
CU: ***What are your favourite Amiga games? And if you had to be alone on a desert island, what would be the one and only game you'd take?***
AB: "My top Amiga titles, in no order are: Turrican 2, Datastorm and Xenon 2. As for being stuck on a desert island, that's a tricky one to answer. I think that I'd get fed up with any game if it were the only one I had. Variety is very important. Maybe I'd take Rainbow Islands, at least I can get all the way through it!"

CU: ***What do you think of the standard of today's games?***
AB: "Games of the 80s were much more playable than their counterparts now! We had to work hard on the gameplay because the graphical capabilities of the machines then were so limited. Also, most of the games were two dimensional, displayed on a two dimensional screen (which they still are today!) and played with a two-dimensional controller, the good old joystick. This meant that the player was in total accurate control. Nowadays games are 3D, but still displayed on a 2D screen and controlled with a sadly inadequate 2D joystick controller. At least there are more buttons though.

The trouble with games today is that they're getting too realistic, and realism isn't always interesting. It's less immediate. Now instead of just running over an image of more ammo and you're away, you have to position yourself in exactly the right place so as to bend down to pick it up.

"Reality is what we want to escape from when we play games. We want to do things that we wouldn't otherwise be able to do, without consequence, in a game, and it should be fun.

"Somewhere on the quest for the greatest graphics ever, we got lost on the way. One of the reasons for this is that games design is no longer driven on by the independent programmers who used to just get publishers to release their latest creations. Now the publishers dictate what will be written so games are 'designed' by marketing people's idea of what the public want".



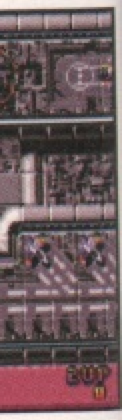
▲ Uridium 2: those were the days eh?

CU: ***Where do you think the future of computer gaming is going?***
AB: "Computer gaming is getting very complex these days. Programs take longer and longer to write because they're getting more and more complex. Somewhere down the line I think we'll have a more direct connection between player and computer, it'll be probably be something like Red Dwarf's 'Better Than Life'."

CU: ***How effectively has the Amiga contributed to Graftgold?***
AB: "The Amiga was such a major part of Graftgold from about 1991 to 1995 as it was our lead machine on a number of products. I don't want to overplay its role because obviously if it had not existed then we'd have worked on other machines instead but it was a machine that I had gotten to know well over the years and it was sad to see it go before its time. It has certainly been a giant leap backwards for us, 'technology-wise' moving over to the PC.

"The Amiga had a lot of unique features that were fun to play with. Just like the 8-bit days there was a competitive spirit to see who could get the most colours on screen at once, for example like the copper effects from the original Uridium. It was a fine machine to write the sort of games on that I wanted to create and 68000 Assembler is the right tool for the job."■

Mark Forbes

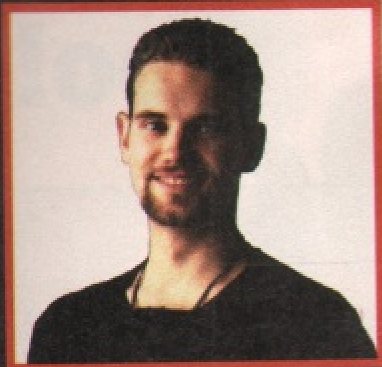


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Snip Tips

by Matt Broughton, Games Consultant.

Another issue, another attempt to bribe you into sending in cheats for a free Hit Squad game.

DESERT STRIKE
EA

Malcolm Campbell of Tyne and Wear has a handy tip for any would-be Strikers who constantly find themselves running low on fuel. Simply pause the game (by pressing F10) and then unpause it and move. A second or so later pause it again, then unpause and move. If you keep repeating these steps the machine will never get as far as to take the next unit of fuel away (although 020 Amigas might 'cos of their faster speed). It might not sound like a very brilliant tip but when you're down to your last life and about to die simply because you haven't left enough fuel to get to the next supply, it's a life-saver!

SLAMTILT PINBALL
21st Century

Ta to Andrew Bolt of Lancashire for a handy five-ball cheat mode and some hidden message codes
Five-ball – Type **'LONGPLAY'** on any table at the start while it's scrolling. A message will confirm that the cheat's on.
For messages – Type the following: **BARRY, CHEAT, COW, DANIEL, IAIN, KLAUS, KOTTEN, STEWART, WHIPLASH.**

PUSHOVER
Ocean

Mark Wood from Barnsley (who, I might add, is a very cheeky little fella') has sent in some extra codes for this brain-melting puzzler of olde.

Also check out the 'SCREENS' drawer on the second disk for loads of other level codes:

LEVEL 90: 28671
LEVEL 91: 28259
LEVEL 92: 26111
LEVEL 93: 26623
LEVEL 94: 25599
LEVEL 95: 25087
LEVEL 96: 08703

If you want to know where you can find packets of Quavers (and no, I don't mean REAL ones, I'm talking about the ones in the game, stupid!) look carefully at the following levels :

LEVEL 11: 07168
LEVEL 20: 15362
LEVEL 30: 08718
LEVEL 44: 29726
LEVEL 62: 16598
LEVEL 88: 26879

SENSIBLE WORLD OF SOCCER
Sensible Software

A very large thank you (THANK YOU!) goes out Mr S Haining of Hartlepool for a collection of high-quality cheats this month. First up is good old SWOS, and for the record, Mr S used Azap for the following procedure …

OK, first of all pick your team and play one match. Now check how much money you have and make a note of the full amount and then save your career. Next up you should quit the game and load up your saved game into a hex editor. Go to the menu, click on Convert, type in the amount of money you have in your saved game where it says decimal, then press enter. You should now get a hexadecimal reading which you'll need to make a note of.



▲ Yes, we have some top quality cheats for a top quality game this month. Sensi fans are in for a treat.

Now go back to the menu and select Search. Type in '0x' followed by the hexadecimal reading you've just taken down and press return. It should now find the section of code that represents your money.

Click with your mouse pointer where the cursor has stopped and type **7776FFFF** over the letters or numbers but ONLY over the hex numbers you noted down earlier.

Now just save this altered file back onto the disk and, hey nonny nonny, when you load this file back into the game you'll have mucho dosho!

This procedure also works for UFO and some other games, so Mr S advises you all get yourself a hex editor pretty soon! And there's more …

XTREME RACING
Guildhall Leisure

Mr S also has some Workbench shenanigans to shuffle the tracks around in this speed extravaganza (or something). Anyway, load up Workbench and put one of the track disks into DF0.

Make a back-up copy of the trackdisk and end up with the back-up in DF0. Open the root directory and show all files, then open the directory called TRACKS. Now change the names of the race tracks so that, instead of reading: e.g.
road_circuit_IB.trk, it reads **road_circuit_D.trk.** You'll now be able to use which ever track you renamed as a Death Match Track. Cool. ■

And … relax.

Open your eyes, and breath normally. Well done. Thanks to all those who've written in and don't forget that any other readers thinking of sending tips in should let me know what machine you've got and what game you'd like (in an ideal world) so we can sort you out should you get your tip printed.



Adventure Helpline

I'm back with some more saucy talk. Watch out, my bite is worse than my bark.

Eye of the Beholder II

After blowing the four horns against the wall, I have beaten the green mantis and the bees but I still can't destroy the main hive. I've found a room that says: 'three bones together, they are the key'. What does this mean and where can I find the three bones?

A. Muir, Staffordshire.

Look darling there's nothing clever here, it's all perfectly simple. You simply have to collect any three old bones, (there are lots of femurs and skulls lying around in the lower levels) and place them in the magic mouth on the wall. Do this and you'll be rewarded with a bone key.

Police Quest 3 – The Kindred

Please help me? I've been stuck in this game for about a year now and don't know anyone who has it. I'm stuck on day five, I just can't do a thing on day five. Can you tell me what to do?

Daniel Simons, South Shields.

Go to the Homicide Office and read the memo on the notice board concerning women's training. Switch on the computer and go to file 199145 where you'll find out that a 1976 Sedan car is associated with the killings. Now use the tools/city map program to plot lines between the scenes of the murders. The points are; 200W Palm, 300W Rose, 300E Rose and 300S Sixth. Connect the points like this: 200W Palm to 300S Sixth, 300W Rose to 300E Rose, 200W palm to 300E Rose. Finally, connect 300S Rose to an imaginary point on Palm between Eighth and Ninth street and connect 300W Rose to a point on Palm between Eighth and Ninth. Get this right and you'll receive a message saying that you have found the pattern.

Bard's Tale II – The Destiny Knight

I know that this is an old game but I have just stumbled on it. Now, I am hopelessly stuck. Can you tell me what the 'Three words in sequence' are which I need to gain access to the fourth level of Dargoth's Tower.

Dave Simons, South Shields.

The answer comes from three poems which you must have encountered in the tower. The three words are: Earth, Compassed and Fountain.

Leisure Suit Larry

Fawn has dumped me (Boo!) and left me with only $10 and a knife. I managed to cut myself free and I went to the Casino and won about $400 on the blackjack machine. But what do I do now? How do I get Faith? How do I get the darkened room's object? Please help as I've been stuck since June.

Owen Marley, Sittingbourne.

Well, much as I think that a sexist little weasel like yourself should be left to stew in your own juice, I'll help you out. You will get nowhere with Faith until you obtain enough pills to blow her mind. So it is those pills that you must find first. Once you have made enough money at blackjack to pay for two taxi fares, travel to Lefty's Bar. Knock on the door to the storage room and give the password (Ken sent me). Go straight upstairs and find the prostitute in bed. When she invites you in, take off your clothes and put on the exotic item that you bought in the Drugstore. After the dirty deed you can climb out the window. Walk to the right of the fire escape and you'll see the pills you are seeking behind a window. At this point you're going to need a rope and a hammer to get what you need. I'll leave you to work out that bit.

Kings Quest V

I am stuck on the mountain path which is blocked by a frozen waterfall. I have tried to lasso an overhanging branch but when I begin to climb the rope I die. Can you help, I have been struggling for three months now?

Phil Hopwood, Torpoint.

I hope you're wearing your cloak because it gets damn cold out in the mountains. I think that you are trying to lasso the wrong point and that's what's causing your problem. You should use the rope on the rock overhang. Then climb that until you reach a ledge. Now use the hand icon. You will come to a massive gap and the only way to get across is by jumping from stone to stone. However, only jump on the rocks at the top of the screen as the rest are not very stable.

Simon the Sorcerer

I know that I need the woodworm to break through the floorboards in the tower but I don't know how to get them. I have tried everything I can think of on the tree stump in the forest and now I'm out of ideas. Also, how do I get a melon?

Jon Reeve, Great Yeldham.

The woodworm will only help you if you first give them something tasty to eat – namely their favourite wood. You can get this wood from the secret store that the woodcutter has hidden behind, and below, the fireplace in his cottage. However, I suspect you're not really ready for that bit yet. To get a melon you must first get a bucket of water from the well at the witch's cottage. Find the oaf in the forest and pour the water on his beans. You'll now find you can reach into the puddle of water and pick up the beans. Take the beans to the compost heap behind the wizard's house and plant them. Yes, I know that watermelons don't grow from beans, but don't blame me. I'm only helping out here until I can get a proper job!

Lure of The Temptress

After going into the caves I pulled the skulls to open the door. This worked in the first room but it doesn't work in the second room. Can you tell me what to do because I've been stuck in here for ages?

C. S. Carnell, Cunnock.

Correct me if I'm wrong but you aren't on your own in these caves are you? There is a healthy intelligent female with you! The trick is simply to get her to help you with the puzzle. In each cave you simply pull or push the skulls to open the door. However when you are in the green or blue cave tell Go into go into the cave and push and pull all the skulls four times. She isn't there simply to think about her fingernails and tell you how wonderful you are you know. ■

If you've got a little problem with your favourite RPG or adventure and would like Vamp to help you out, drop a line to: Vampyra, CU Amiga Magazine, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.



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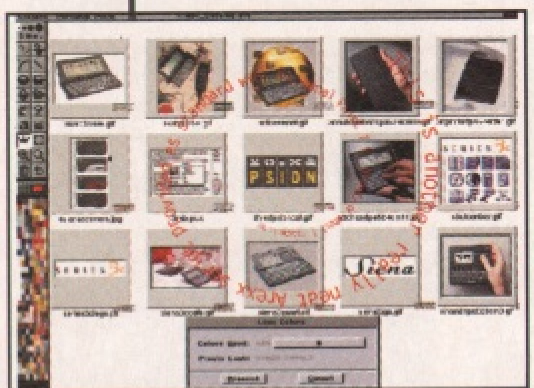
Tech Scene



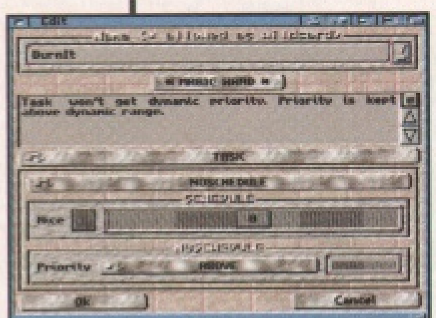
I think this festive thing has gone too far this time ... anyway look at these lovely reviews we've got for you this month (ho, and indeed, ho).



Art Effect 50



Personal Paint 7.0 53



Executive 58



PD Utilities 62

CD Amiga



Art Effect

■ Price: £79.95 ■ Developer: Haage and Partner
■ Supplier: Blittersoft ✆ 01908 261466

AMIGA SUPERSTAR

It's not every day a new graphics program appears for the Amiga, especially one as impressive as this.

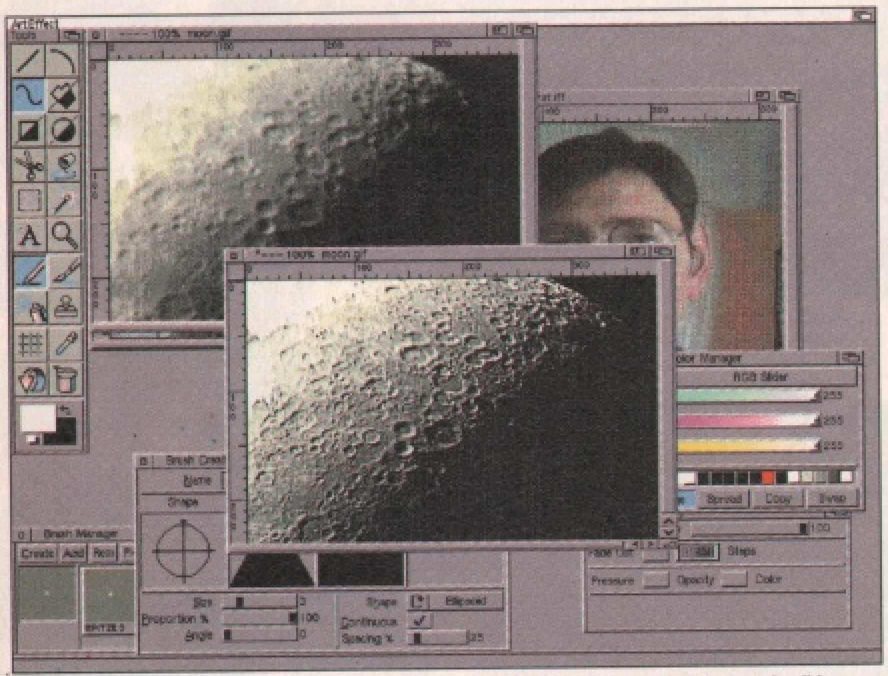


▲ The well-designed user interface pays homage to one of the greats, Photoshop.

Things were pretty quiet on the Amiga graphics front, until Photogenics came along. At last, a program which pulled the Amiga away from the Deluxe and Personal Paints of this world, and gave us tools which compared very favourably to those on the Mac and PC. Photogenics acknowledged that many users had more than 2Mb of memory and wanted more than IFF animation features. Being able to play with individual pixels was not as important as high quality filters and support for 24 bit graphics and graphics cards.

Art Effect is a refinement of that concept, brought to us by those industrious Germans responsible for Storm C. Compared to Photogenics, Art Effect looks rather simple and featureless but that does nothing more than demonstrate that a well-designed user interface is worth a dozen metre-high scrolling windows.

If you notice some comparisons being made between Art Effect and Adobe Photoshop, there's a very simple reason. Art Effect is practically a direct copy – to all intents and purposes, it's an Amiga version of one of the best graphics packages ever written. To deny that the programs are similar is to overlook its main features, the layout of the tools and menus, the floating tool palettes and a dozen other touches which have been lifted directly. Is this a bad thing? Absolutely not. Photoshop didn't become the most sought-after graphics program in the world because it was badly designed and featureless.



▲ The filters have practical as well as artistic merit: here the Sharpen tool is used to bring out detail in a photograph of the moon.

Best features

So what makes Photoshop, sorry, I mean Art Effect so special? It's no secret – simply a combination of ease of use and some very powerful features. The key is the flexible masking and stencil options. Other packages can make it needlessly difficult to select specific areas of a picture. For example, let's say you have a scanned picture of a person standing in front of a wall, and you want to remove or re-paint the wall behind them. With other programs this can mean a pain-staking hour or two spent in magnification mode, drawing an outline around the person. Only then can you isolate the background, but you still can't easily deal with the entire background as one complete selection.

Kinda magic ...

With Art Effect, you can use the Magic Wand feature to highlight areas of similar colour. This means you can select the entire background with one or two clicks. You can then process or paint over only the selected regions, leaving the person entirely untouched. This is the kind of feature which the Amiga paint programs have historically lacked.

Other ideas have been borrowed as well: feathering allows a region to be selected not with a finite border but with a graduated edge. Brushes can be defined in terms of shape and opacity. There are different surfaces to draw on, giving unique textures to your brushstrokes.

PlugIns allow other utilities and features to be integrated into the program through an easy to use User Interface. All these are included alongside support for plenty of graphics formats. Cybergraphics cards, Datatypes

Magic Wand

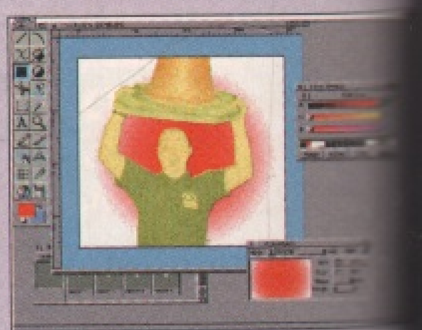
Perhaps Art Effect's single most useful tool is the Magic Wand. Amiga programs have been crying out for this feature since the first version of Deluxe Paint. Here's a taster of what you can do with it. Take it away boys.



▲ Load in the image you want to play with.



▲ Using the Magic Wand select the background.



▲ Use the graduated fill to provide a new background.

and the usual clean and efficient Amiga user interface we all know and love.

Art Effect is the kind of program you can load up and use either for fun or for creating professional quality images. It's ideal for dealing with 24-bit pictures, whether scans, digitised images or 3D renderings. It's a superb manipulator of images but it's also perfect for creating top-quality images from scratch. There are a few snags: I'd have like to have seen ARexx support and on-line help and the Cut and Paste routines are more than confusing.

Yes, high end graphics like this requires the hardware to back it up. The more memory you have the better, and if you don't have an Amiga with a graphics card, this is a good enough reason to buy one. Art Effect will allow you to paint with 24-bit graphics on screen: that's more than 16 million colours on-screen at once. At the other end of the scale, you can use Art Effect in 256 colours or less on an A1200 and it's still a great program.

Conclusion

It's taken a long time, but there's clearly still hope for the Amiga with software of this calibre appearing. Art Effect is still not quite state-of-the-art: it's very similar to Photoshop version 2, while version 4 has only just been released. As a result, some useful features such as Layers are missing – but then again Macs and PCs used for graphics work are rarely seen without 16 or 32Mb of memory, hugely expensive processors and an OS which includes virtual memory as standard. For Art Effect to run on an A1200 is quite a feat.

If some Amiga-specific features such as ARexx could be included (perfect for batch processing: only Photoshop 4 has this) then Art Effect could leapfrog the opposition to help the Amiga regain it's graphics crown. One thing is for certain: you no longer need to spend thousands of pounds to get Photoshop results.

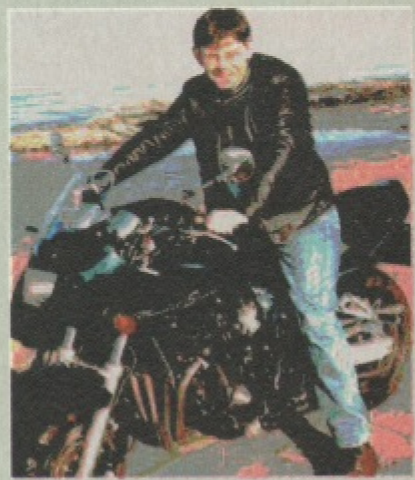
So, should you buy Art Effect? Answer these simple questions. Do you use your Amiga for graphics? Buy Art Effect. Do you have an Amiga with a graphics card? Buy Art Effect. Are you alive? Buy Art Effect. Are you starting to see the pattern emerging? ■

John Kennedy

Filters

A filter is a very special effect which you can apply to the entire image or a chosen part.

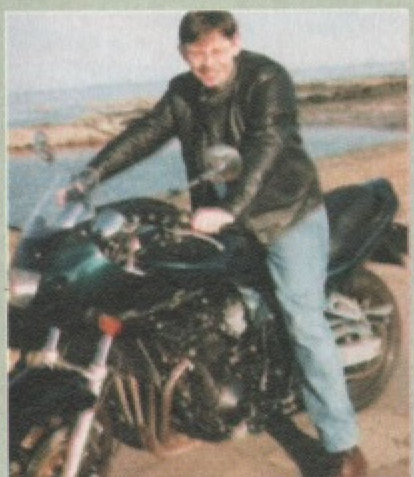
Filters can vary from simple blurs to quite involved mathematical algorithms: but you don't have to worry about all that because you get to see them all beforehand in a little preview window. Here are some of my very favourite filters at work for you to enjoy.



▲ Posterize reduces the number of Image colours.



▲ Threshold produces a two-tone image.



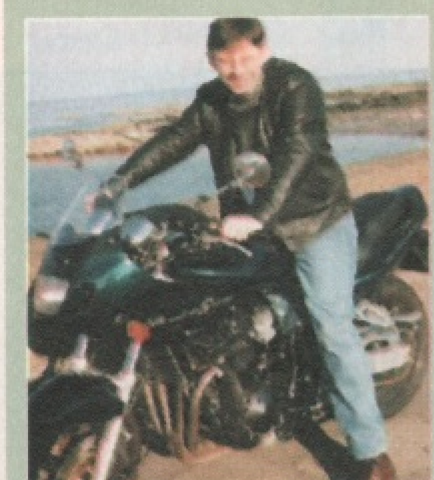
▲ Gaussian blurs the image.



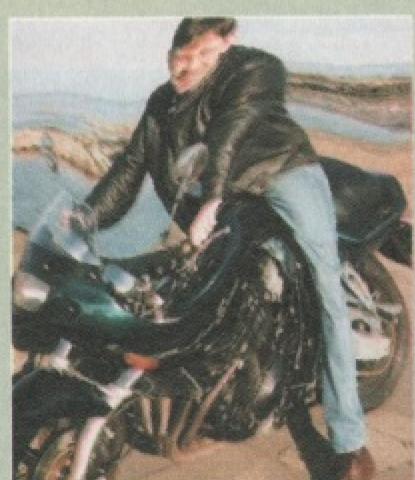
▲ Edge finder makes a colour or greyscale outline.



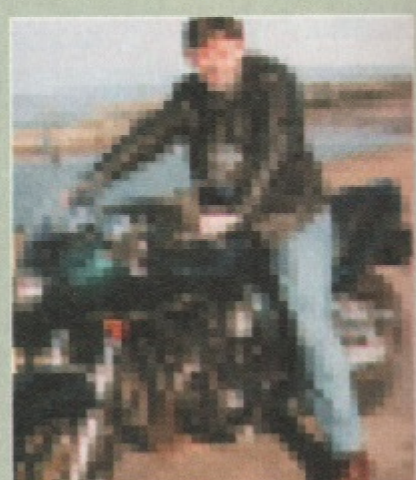
▲ Relief gives a nice embossed effect.



▲ OilPaint makes things slightly blobby.



▲ Twirl adds a little twist to your image.



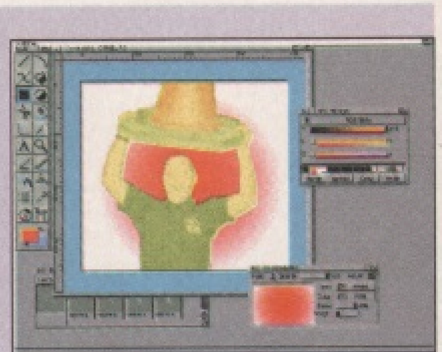
▲ BumpMap uses a brush to dent your image.



▲ Invert the mask and now the foreground is selected.



▲ Apply a filter and only the figure is processed.



▲ And voilá, the finished picture.

Art Effect

A500 · A500+ · A600 · A1200 · A1500 · A2000 · A3000 · A4000

system requirements: AmigaOS 3.0, ECS or AGA system or Cyber GraphX software, Hard disk, a minimum of 2 Mb RAM, 4 to 8 Mb RAM recommended.

ease of use 95%
Couldn't be easier to use. Just like falling off a log.

performance 97%
Comes up with the goods without any fuss or bother

value for money 96%
Absolutely superb value for money. What can I say. Just buy it.

OVERALL
The best Amiga art program. Buy it and enjoy it. **96%**

17 BIT SOFTWARE

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Pre-Order Price
£19·95

18

Personal Paint 7.0

■ Price: £39.95 ■ Developer: Cloanto ■ Supplier: Weird Science © 0116 234 0682

Painting, animation and image processing all rolled into one. And all for just £39.95. It's too good to be true.

Cloanto, the Italian Amiga-only software house, has a long history of updating Personal Paint. Version 7.0 is the latest installment and is distributed on a dinky 8cm mini-CD with electronic AmigaGuide documentation, example anims, pictures and fonts filling the remainder of the 60Mb CD.

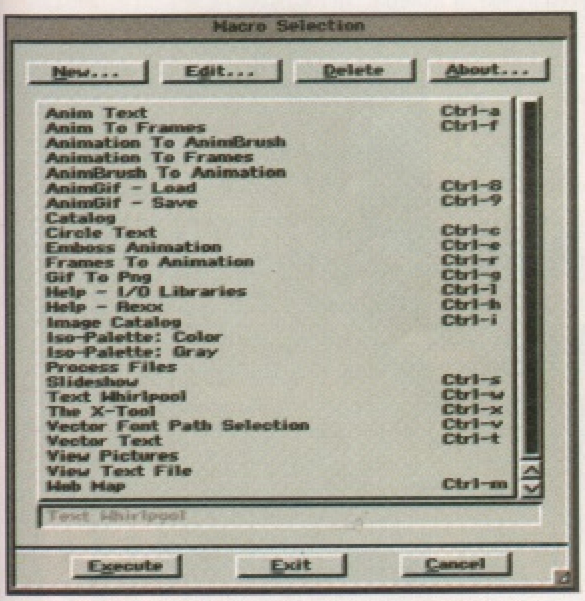
I've long been a fan of Personal Paint since it seems ideally geared to the sort of operations I perform day to day. It's also well behaved on my CyberGraphX based system where other paint packages would fall over dead at the first hurdle. Personal Paint is no Deluxe Paint though. It works strictly with indexed 8-bit images up to 256 colours. There's no HAM8 or other truecolour type display and fancy real worldesque painting tools as you'd expect to find in something like Photogenics.

Plain face

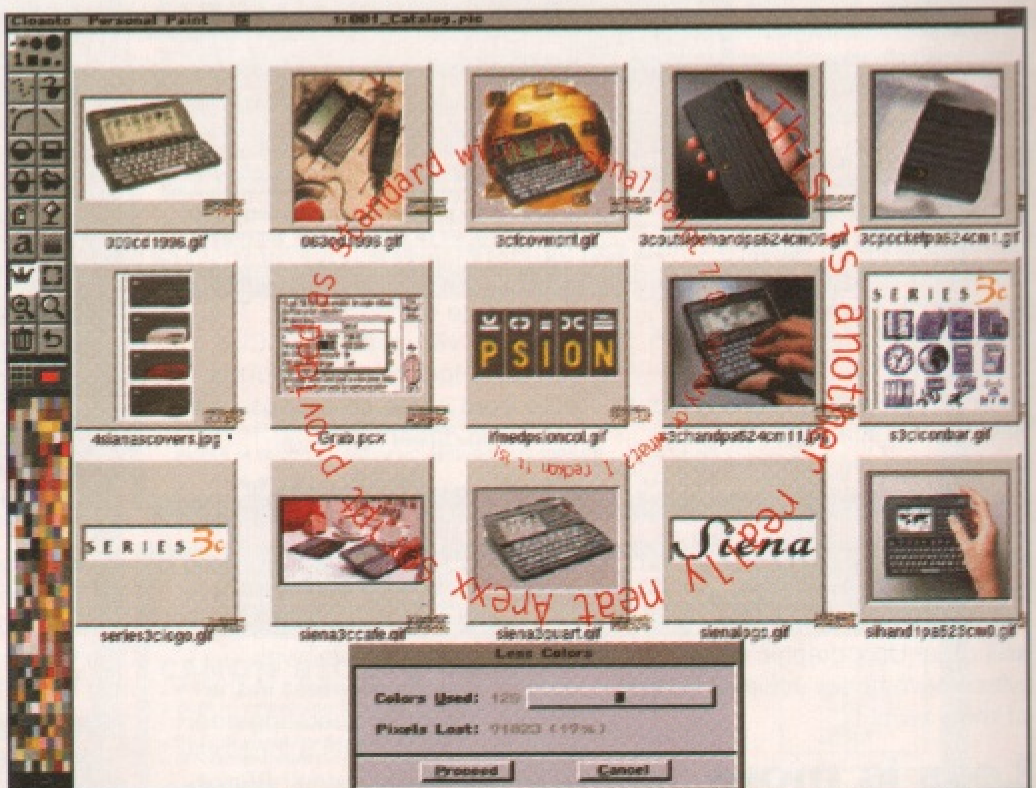
Personal Paint has a simple uncluttered interface with custom but thankfully highly competent pop-up GUIs for the various functions including loading files and selecting display modes. The simplicity of the interface is deceptive as there's a great deal on offer behind the plain face. What you see up front is exactly what you'd expect, plenty of extremely DPaint-like draw mode tools (except on the left of the screen).

Each of the icons on the tool bar have various settings which are accessed with a right mouse button click upon them. All the usual items are here such as fill types, gradients, patterns, shape and adjustment of the airbrush, type and style of fonts and new for 7.0, selecting of an ARexx Macro.

The latter has moved onto the tool bar in an icon the shape of the ARexx crown logo. The ARexx interface to PPaint itself has had a major revamp since 6.x and now has ARexx commands. Obviously this is only of use to an ARexx head but given some of the superb ARexx examples provided it goes to show what can be accomplished by programming PPaint direct. Given the functions PPaint possesses it would be possible to perform complex batch processing operations akin to what would normally be done in an expensive image processing package such as Image FX. For instance, there's a great 'Catalog' script provided that generates images full of thumbnails of pictures in a directory. This is a great feature and there's nothing to stop you from adding more or at least modifying existing scripts.



▲ No shortage of ARexx scripts provided as standard but the real power will come from rolling your own.



▲ The results of two of the most impressive ARexx scripts. The Catalog script created the page of thumbnails from a directory of pictures and the Whirl Text created the anti-aliased spiral text.

JPEG internally

Version 7.0's retains the I/O modules, allowing other image formats to be added later, but it now incorporates JPEG internally rather than using a Datatype. It's a very fast loader and, as usual, PPaint converts the 24-bit images down to a colour map extremely well. PhotoCD support is now also integrated and is superb. It has the facility to load the PhotoCD overview files for the thumbnail screens and the PCD images in all of their resolutions. One niggle I have with it though is that the resolutions are tagged as 'types'. I'd rather see the resolution displayed as you change mode. In one step it's possible to load a PhotoCD, convert it to 256 colours and scale it to fit a screen mode. This is damn handy and a very real alternative to professional scanning.

The loader also has support for the third-party shareware 'Superview' system which has a library of loaders for various picture formats. In this way it's possible to import virtually every image format going around. Colour conversions and image processing on whole images or brushes can take a very long time though. Cloanto told us this was a side effect of working with indexed colour images and not the 24-bit originals.

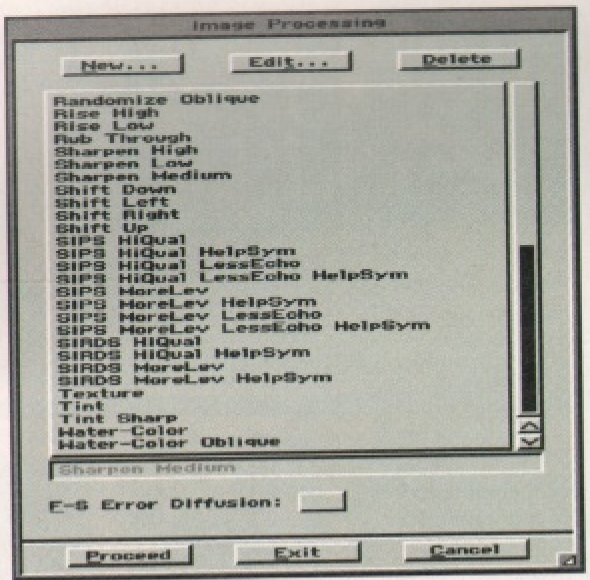
A subject that's dear to my heart, Internet Web sites, has much more specific support since 7.0. This may have been due to previous versions already being a close to ideal tool for this kind of work. One seriously neat function is the ability to handy AnimGIFs. PPaint's animation features are basic though well thought out and easy to use. The actual mechanism for loading and saving AnimGIFs is accomplished through provided ARexx scripts though sadly they didn't cope very well with loading AnimGIFs which have only a part of the frame animated, something Cloanto promises to fix.

Web site

Transparency handling is another issue which is important for

creating pictures suitable for Web sites. PPaint now handles saving transparent GIFs internally rather than a freeware I/O module which previously had to be obtained elsewhere in 6.x. Brush handling and manipulation tools are first rate; shift the handle point with Handle Custom to somewhere on the brush, select 'Make New' transparency or flood transparency and so on until only the part of the image remains which is desired. It saves buckets of work if this needs to be performed regularly.

Grabbing of a screen from PPaint 6.x was handy enough but now 7.0 will grab any AmigaOS window straight into a brush! This function is wonderful for taking screenshots for publishing. However, more mainstream users could include grabbing from render windows of things like Clouds and other Unix graphic tools which have no (or useless) savers of their own.



▲ No shortage of image processing options either. Many of these are for those weird 3D stereograms.

Less is more

A function that's not new to 7.0 but which is worth mentioning anyway, is the less colours options. This counts all of the pixels on the screen and presents a slider with the amount of colours present. It's possible to move the slider down and it will upload to tell you how many colours and what percentage of the image's pixels will need to be changed. Combined with either PPaint's two qualitative and quantitative methods of colour reduction, a graphic image can be reduced to the bare minimum number of colours required. After that, pens can be moved around the palette and the picture remapped etc. This was how we created the CU Amiga Magazine team Worms map from a true colour scan without using dithering.

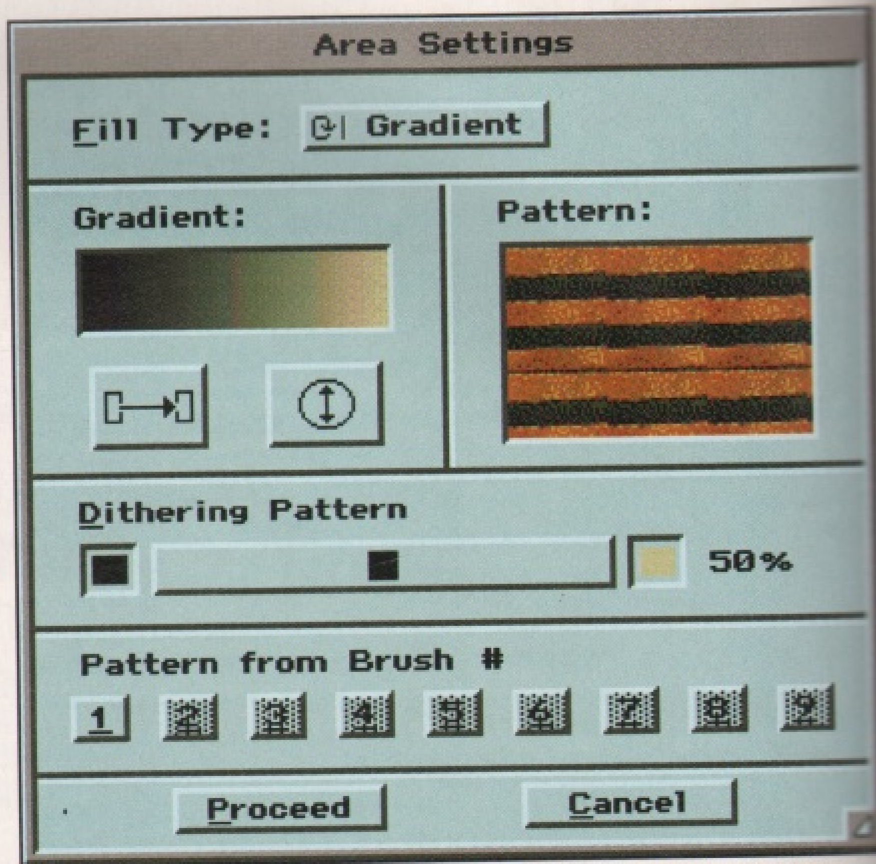
CyberGraphX

Another reason I get on with PPaint is its tolerance of running under my CyberGraphX RTG system. Version 7.0 has improved on the compatibility level with noticeable improvement in the magnifying glass operating and such forth. It still has a long way to go though. By default PPaint seems to steal chip memory for operations which it shouldn't need to. This only slows things down to a crawl on a heavily accelerated system. I found this could be avoided by tweaking my CGraphX settings to force planes to fast memory and so on. Despite telling PPaint to use the CPU instead of the Amiga blitter, moving brushes around the screen was many times slower than on the Workbench with MCP's solid move hack so I know it can be done faster. PPaint's online documentation is of a generally high standard though the pages of the AmigaGuide are too long with not enough breaks for easy navigation. With more and more Amiga companies opting for electronic documentation I find myself wishing some more effort was spared on it.

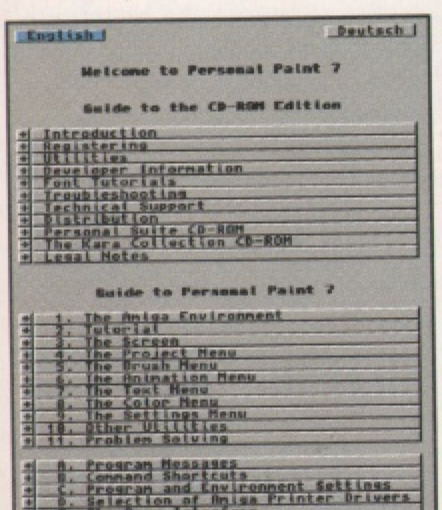
The online documentation can't be easily moved onto hard drive unless the whole CD is installed and will consume 60Mb of HD space which is a bit silly. These things are minor compared to my main gripe with the documentation which is that there is no index, the lack of which forced me to load all of the AmigaGuide into a text editor so I could do a 'search for' function. Ouch.

Overall PPaint is a superb package if it's geared at what you want to do. It's not the best option for serious artistic work but to combine basic paint and animation package functions with image processing, excellent colour control, superb ARexx support and good behaviour under RTG is very handy for some users. For Web work alone it can't be beaten. If only the documentation and RTG support was shored up, not to mention the addition of truecolour then this could be the premier package on the Amiga. As it is, it's still a quality package which is highly worthy of a purchase. ■

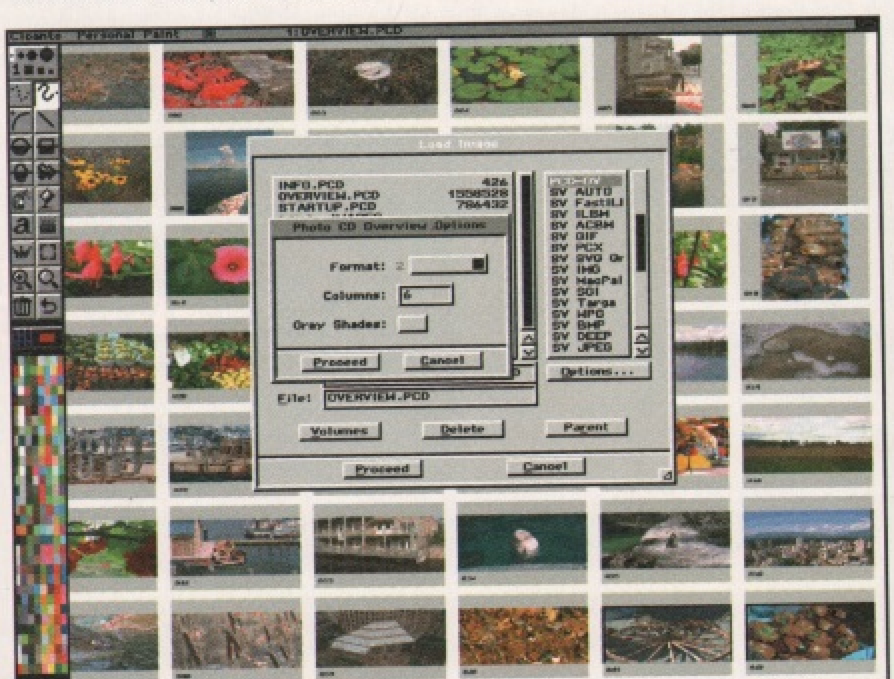
Mat Bettinson



▲ The Area settings shows the options for a full brush be it a smooth gradient or a brush pattern. You can alter the dithering also here.



▲ Here's the AmigaGuide documentation for PPaint. Well documented but an index would have been nice.



▲ PPaint's PhotoCD loader can not only cope with single pictures but also theoverview file seen here which has a choice of two resolutions but can also be scaled to whatever the current screenmode is.

PERSONAL PAINT 7.0

A500 · A500+ · A600 · A1200 · A1500 · A2000 · A3000 · A4000

system requirements:
OS 2.0 and CD-ROM required

ease of use 89%
Straight forward operation but the documentation needs some more work.

performance 88%
Very good but would benefit from extra performance and features.

value for money 90%
Particularly good value for money when you consider what's on offer.

OVERALL
Excellent specialised graphics package gets even better.
89%

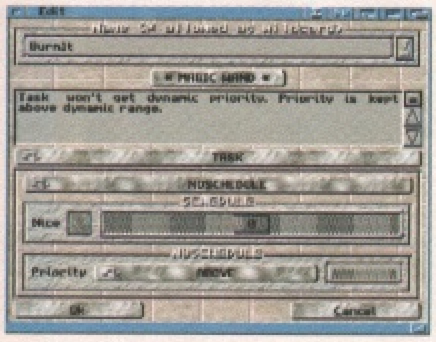
Executive 2.0

■ **Price: £10/£17** ■ **Developer/Supplier: Petri Nordlund**

AMIGA SUPERSTAR

Multitasking is where the Amiga excels. Is it possible to get even better? Yes.

As all Amiga users know, multitasking is where their machine really outshines the rest. It's been doing it for 10 years while, in 1995, others were heralding the addition of this capability as a new thing. So, is it possible that the Amiga's multitasking capabilities can be improved upon? The makers of Executive 2.0 claim it can.



Rocket scientist

The type of multitasking that the Amiga provides is known as 'pre-emptive prioritised round-robin' multitasking. In simple terms what this means is that every program or fraction of a program which detaches to multi-task is known as a task. CLI processes are tasks themselves, you can view the current ones running by typing Status in the AmigaDOS shell.

For example, if there are tasks of the same priority running, the original Exec will cut between them and this leads to the term Round Robin. In all it's a competent though simple system which works well on the Amiga. It's been there since the start and developers have learnt to exploit it.

On the other hand, the Unix platform has what's called a task scheduler which without filling pages with more technical details, uses more intelligent methods to decide what task gets what priority and when. The new Executive 2.0 apes this method by playing with the Exec task priorities in real time to implement a proper task scheduler.

Looking good

Presentation wise, the author has gone to a lot of effort to get the package looking good and easy to get around. For example, both MUI and Gadtools versions of the preferences and clients are provided. The only problem which can arise though from using Executive 2.0 is when some tasks which really should not be forced to wait are 'scheduled'. For example, programs which are time critical or any kind of serial access are obvious ones which you should be able to force not to schedule.

The magic wand option in Executive's prefs is very useful when you are defining a new entry as it has settings for most problematic programs. The preferences program also allows you to set the scheduler you want to use. This is handy as there are several different types which have different multitasking algorithms built for various system loads. I tried the other schedulers provided and found that the Super,

Where can I get Exec 2.0?

Send a Eurocheque or Postal Order for £10 (£17 if using a personal cheque) to: Petri Nordlund, Vanhamaantie 4, FIN-28800 PORI, FINLAND. (petrin@megabaud.fi)
State whether you'd like the keyfile Emailed to you or delivered on a floppy disk. The unregistered version of Executive 2.0 can be found on this month's cover CD in the magazine directory.

Queues and the 2.0 Feedback schedulers (provided with the registered version) were enough to fully manage my system.

Finally, there's a number of handy utilities for managing tasks. They range from my favourite 'Top' which displays a simple window showing the top 10 CPU-consuming tasks to the incredible 'Dashboard' client which allows complete control over the GUI elements. Anything Executive 2.0 is capable of measuring, such as CPU time, current loading, memory status and such forth can be included as a GUI element and resized/placed anywhere within the window. Totally amazing.

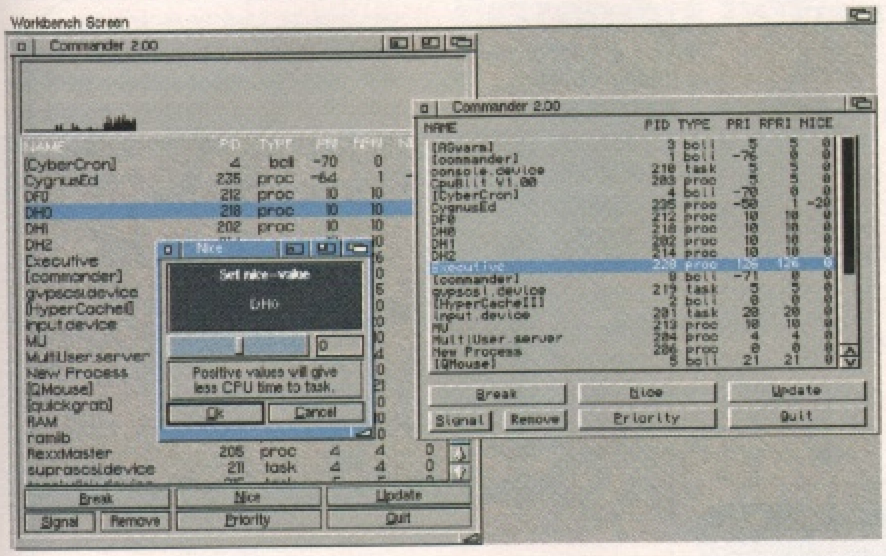
Indispensible

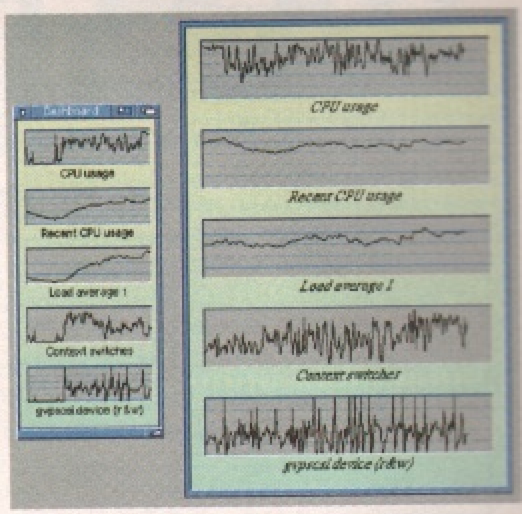
Executive is really about multitasking. People who have tried the shareware version have either complained that it seemed to do nothing or totally loved it. The kind of person who's likely to benefit greatly from Exec 2.0 is an Amiga user who runs many programs at once. For instance, any rendering that you want to do will no longer slow down response time for other programs. Also, the system won't lock up when a very CPU intensive task kicks in. Everything carries on running as Executive figures out who's had their share of the pie.

Just to satisfy myself that I couldn't live without Executive, I tried disabling it for the first time in many months. Suddenly CLI response was dead slow as my 4000T chugged through various Internet tasks. Other applications stopped and started, presenting a generally jerky response. The machine locked up for a few minutes several times as a background task kicked in to do something and hogged the CPU. It was no fun, I wanted my Executive back!

The tenner that the full product costs is nothing to pay for what you get. Suddenly the Amiga glides along as its best asset is made even stronger. Don't buy it if you aren't something of a power user though, because the simple schedulers provided with the unregistered package can be misleading as to what's on offer. Executive 2.0 comes most highly recommended for power Amiga users, for those people get it now! ■

Mat Bettinson





EXECUTIVE 2.0

A500	**system requirements:** OS 2 or higher
A500+	
A600	**ease of use....................95%** It's extremely easy to install, set up and maintain.
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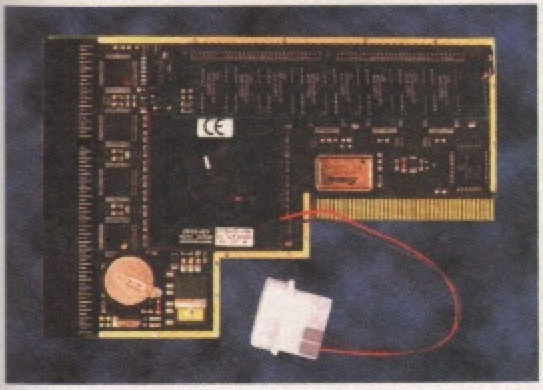
Blizzard 1240T/ERC

■ Price: £249.95 ■ Developer: Phase 5 ■ Supplier: Blittersoft
✆ 01908 261477 http://blittersoft.wildnet.co.uk

AMIGA MAGAZINE SUPERSTAR

Before you howl "Oh no, not another accelerator", this one is a little different from the norm. Coming from the Blizzard stable the most notable factor is that it's designed to be used in A1200 tower systems whether it's pre-fabricated or an Amiga enthusiast's DIY effort.

This card is as fast as you can get before stepping into expensive 68060 territory. See the benchmark graphs shown far right for how it performs. You can find the AIBB module on the cover disks for your own comparisons. The CPUs have been reclaimed from previous computers which enables the amazing price of £250 and thankfully they are fully tested and guaranteed.



Extremely hot

Cooling poses a problem for this baby though. While other 68040 cards have been based on 25MHz 68040s, this beast is a full 40MHz 68040 and is based on the 68060 so it gets very hot. There is a very low profile fan mounted on the 68040 to combat this but the CPU is on the underside and this means that the fan will rest against the desktop on a standard A1200 totally blocking the airflow and leading to CPU destruction.

The power for the fan is provided by a 3.5" drive connector inside a tower system. Physically, the fan also procludes usage of double sided SIMMs. They won't fit, we tried.

Once the card is fitted it carries the same impressive features of the 68060 card such as: disabling of the CPU/memory by holding down the '2' key, up to 128Mb of RAM or 192Mb if the extremely fast Blizzard SCSI connector kit is attached, and a blinding memory bus speed.

Another bonus to this card is that the 68040 also doesn't need any patching software like the 68060, but the 68040.library is required for emulation of instructions dropped since the 68030. If you do not have the 68040.library, Blittersoft will kindly provide it on request.

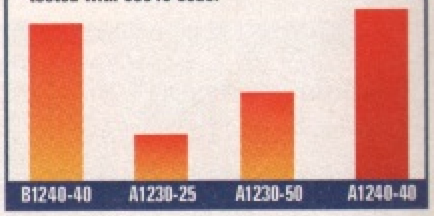
DIY type

Other cards are on sale for the same price but only have half the features. This makes it worthwhile for any enterprising DIY type to make provision for it using the 1240T/ERC in a desktop A1200. All you need to do is raise it off the table slightly with stacked rubber feet from Tandy and splice the 12V fan power onto the floppy connector. Without these modifications it's a tower only unit so please don't be tempted to fit to a desktop.

The Blizzard 1240/ERC offers amazing performance and incredible value for money. Get it. ■

Mat Bettinson

Here we see AIBB's FPU 'trans' test. All running 68020 + FPU code though the 040 cards are tested with 68040 code.



CD32 A500 A500+ A600 **A1200** A1500 A2000 A3000 A4000

95%

Atéo PC Keyboard Interface

■ Price: £44.00 ■ Developer: Atéo Concepts ■ Supplier: Ateo UK ✆ 01705 790211

Fitting A1200 motherboards into some kind of tower case presents a problem with the keyboard. The A1200's keyboard is connected to the motherboard with a short rigid metal-film ribbon which is impossible to extend. It's perhaps this factor that stops so many DIY enthusiasts from starting out. The Atéo PC keyboard interface offers a solution as it allows the connection of any of the innumerable PC AT style keyboards to the Amiga. And it's not just of use to tower systems, perhaps you'd like to put the A1200 out of the way and enjoy the facility of a detachable keyboard normally denied A1200 owners.

Fitted up

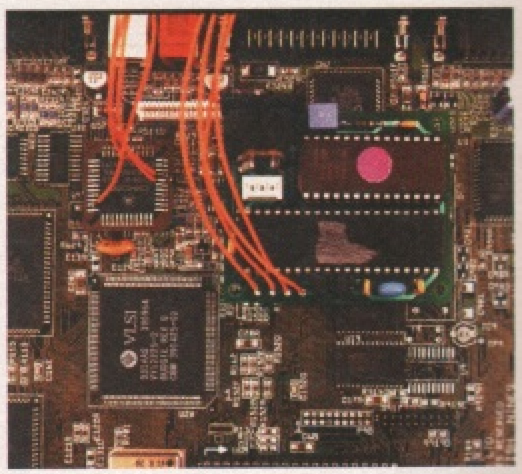
Fitting of the interface takes a different approach than I expected. It doesn't plug into the ribbon connector at all. Instead there's a small upside down SMT square chip socket similar to the one in the Apollo A600 accelerator. The chip carrier is loose with four wires connected to it so it fits firmly and easily onto the keyboard controller chip on the motherboard. Don't worry, the provided instructions are easy enough to follow.

To fit this socket the Amiga needs to be totally disassembled and the RF shield removed. Once the socket is in place the wires can be trailed out of any of the holes and the shield replaced. The wires connect to a daughter board which has some kind of micro controller (my guess is an 8052) and an accompanying EPROM to perform the translation. There's a standard AT keyboard DIN socket for the keyboard to plug into and finally a floppy drive power connector to run the whole thing.

Mapped

The power connector won't be a problem for tower users as the power supplies have these trailing off anyway but a stock A1200 will require more power splicing from the floppy connector. Oh joy. It worked first time for us as the keys are mapped intelligently. A new keymap is required but is provided on floppy disk. Mounting of the daughter board unfortunately is geared to fitting it onto an existing hole on a metal panel. This is fine for Tower owners but pretty useless for those just wanting an extension keyboard. It really should have been possible to fit it to the spare socket on the back right of the A1200. It could certainly be 'bodged' in place.

The keyboard interface works as desired and will be invaluable to enthusiasts hacking their A1200 into a tower case. If you'd like to see CU Amiga Magazine providing details on how to do this, do send us a letter or Email



to let us know. Mounting will require some improvisation for standard A1200 owners though it will be worth it for a high quality detachable keyboard. ■

Mat Bettinson

CD32 A500 A500+ A600 **A1200** A1500 A2000 A3000 A4000

85%

PD Scene

public domain

Good game, good game. Shut up Brucie. Anyway, there's lots of top games in this assortment of 'scene' snippets from Anthony Brice.

Demo of the Month

Rocketz
game



Rocketz is a classic example of taking an old but good idea and making it even better. Anyone who's ever played Thrust on the old Commodore 64, or R3 on the Amiga will know exactly what to expect in Rocketz.
The idea is to guide your ship around superb scrolling backdrops, picking up extra weapons and tokens along the way. Needless to say there are the usual hazards to dispose of along the way such as enemy ships and strategically-placed gun emplacements designed to destroy you. In single player mode it's fun but when there's two of you it's even better. Using the spilt screen option you can tussle it out with a friend, collecting bonus stuff first and destroying your opponent with some brilliant weapons. There are several different classes of craft on offer which handle better or worse depending on your style of play and bank balance.

The presentation is simply superb and you can configure the controls to your liking as this type of game is best played using keys, rather than a joystick. In my opinion this game is worthy of a commercial release and as shareware it's an absolute steal. Superb.



AminetPath: N/A
Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester M26 9YJ. Tel: 0161 723 1638. Price: £1.00 per disk plus 75p P+P.

94%

TurboLode 2
game demo

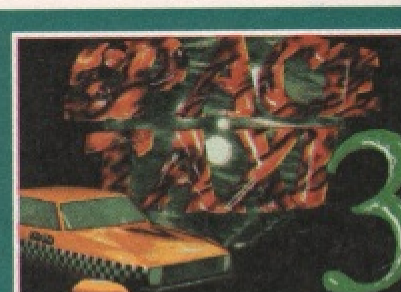
Revamped classics seems to be the theme this month. TurboLode 2 is based on that old favourite Lode Runner, in which you guide your builder-type character around the screens climbing ladders, crossing bridges, swinging from the bars on the ceiling and falling from impossible heights. Up to eight bad guys are chasing you and they're out to stop you getting your hands on the gold bars. And if you weren't frightened enough the music is suitably scary. TurboLode 2 is a tough game. The only reason I managed to see some of the later screens is because the demo had a few saved games already included.
AminetPath: N/A



Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester M26 9YJ. Tel:0161 723 1638. Price: £1.00 per disk plus 75 P+P.

82%

Space Taxi 3
game



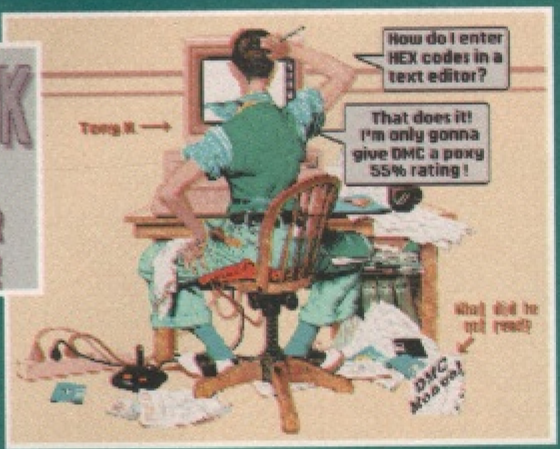
As if Rocketz wasn't enough to while away those long winter evenings, Space Taxi is another nineties version of a classic Commodore 64 game. In this futuristic world taxis don't have wheels any more. They're mini spaceships. Gravity permitting, your job is to fly one of these taxis around avoiding the scenery and landing on precariously-placed platforms to pick up passengers and take them wherever they wish to go. It's a simple enough idea but there are several different levels, each with their own set of screens to navigate. Moving platforms, electricity-charged holes and gravity playing up make it difficult. Add Excellent presentation screens, configurable speech samples and the music and you've got a great game.

AminetPath: game/misc/spacetaxi2.lha (790k)
Available from: Your Choice PD, 39 Lambton Road, Chorlton, Manchester M21 0ZJ. Tel: 01618 818 994.
Price: £1.00 per disk of Aminet files plus 70p P+P.

90%

DMC Gold
disk magazine creator





CU Amiga Magazine looked at the original DMC some time back and pointed out a few things that needed to be corrected. The author was affronted at some of these criticisms but nevertheless DMC Gold (Disk Magazine Creator) is a new version which has been created to address them. The author has gone to great pains to point out in the accompanying documentation how indignant he is at Tony Horgan's complaints about his work, such as having to use hex codes manually. He's even gone to the trouble of putting a spoof load screen of Tony (hex codes never put me off OctaMED! - Ed). Fortunately, he's taken note of the complaints, so this new version is a much improved program.

DMC is used by many disk magazine authors to create their work. The new DMC fixes several bugs and adds extra features including better print options and a much-needed search feature which works rather well. The old formats are still compatible with this new version so you can use old templates with no problems. DMC will also still work on 1.3 machines. DMC is worth its weight in gold and the £6.99 asking price is justified if you create your own magazines.

AminetPath: N/A
Available from: F1 Licenceware, 31 Wellington Road, Exeter, Devon EX2 9DU. Tel: 0392 493 580. Price: £6.99 plus 75p P+P.

87%

Keith's Quest
game



This is another arcade adventure in the spirit of the Monkey Island series. It's a licenceware game where you guide our hero through a distant land interacting with objects and the scenery along the way. The commands are enforced the traditional way by clicking on words at the bottom of the screen for sentences like: 'unlock door with key'. It's the usual hunt the treasure plot but I'm not sure what kind of people it's aimed at as it seems too tricky for kids and adults may find the plot a bit too silly to take it seriously. I played the demo of the full game and unfortunately didn't get too far as the puzzles were far too illogical for me. I only managed to visit three or four locations before getting stuck. however, people who play these types of game more than I do may have no such trouble.

AminetPath: N/A
Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester M26 9YJ. Tel: 0161 723 1638. Price: £1.00 per disk plus 75p P+P.

84%

Fighting Spirit
game demo

Yes, it's yet another Streetfighter clone. Has Fighting Spirit managed to succeed where others failed? Well, the graphics and presentation to start with are superb, and the music is atmospheric. There are 10 characters in the full game with some surprise ones promised but only two in the demo. You've got the choice of two characters: young Kento Sazak or the slightly older Yuri Hishimoto against a nice oriental backdrop (we're promised 10 different animated backdrops in the full game).

There's the usual compliment of special moves along with the standard punching and kicking stuff. So far it's looking very attractive, it plays well, the players move quickly enough and the response time is pretty good. This bodes well for the full game.



AminetPath: N/A
Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester M26 9YJ. Tel: 0161 723 1638. Price: £1.00 per disk plus 75 P+P.

85%

National Hunt V3
game



National Hunt offers you the chance to become a National Hunt horse racing trainer. And as far as management simulations go there's enough statistics and figures in here to give real horse racing fans something to shout about but there is a price to pay. Working through a season turns into a chore rather than fun due to badly implemented statistics screens that take forever to scroll up with no option to skip them. There are too many delays in the game, which presumably are there to give you time to read what's on screen, when an option to click mouse when you're ready would be so much simpler. Other downfalls include the lack of a hard drive installation script (although it can be done manually), abysmal sound effects and you can only ever save one game. Some of the statistics screens are set out illogically too. For example, when you make a bet and can't see all the info you need. It's not all bad, though. You have an option to view races or not (and the race screens are fun to watch when you have a bet on your horse).

AminetPath: N/A
Available from: Mark Winterton, 1 Risby, North Bretton, Peterborough, Cambs PE3 8QR. Price: Demo version £1.00 plus 50p P+P. Full version £6.00, P+P inclusive.

65%

PD Utilities

public domain

When is an AGA slideshow maker not actually AGA? This and other questions are answered by Anthony Brice as he goes off on his public domain rounds in search of new utilities to put through their paces.

SuperCat V1.3
recording database

Utility of the Month

One of our Super CU CD-ROMs featured an earlier demo version of SuperCat. The author, Mark Sweeney, was more than pleased that the demo appeared on that CD and has overhauled his program to make it even better. This new version, SuperCat 1.3, has a database of cover disks from all of the well known Amiga magazines, including CU Amiga Magazine of course. Created using the wonderful CanDo multimedia program, SuperCat features a very nice interface which is both very easy to use and well laid out. It now includes a very powerful search engine which saves you time digging through your disk boxes for that obscure disk. You can also extend the database as you add to your collection. This really is the best example of a disk logger that I've ever seen. As an added bonus when you buy the program from the author you get a free copy of DidIt, a database of famous people featuring a similar interface. At £2.50 a copy it's a bargain to snap up. And check out the wonderful mug-shot of the author in the program info section. Anyone got a nail file to break him out?

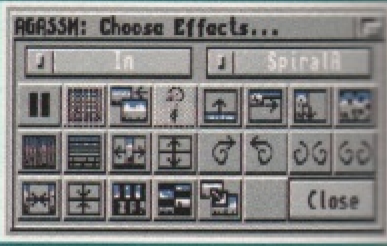




AminetPath: N/A
Available from: Mark Sweeney, 15 Birchfields, Longsight, Manchester M13 OX. Price: £2.50 including free copy of DidIt.

92 %

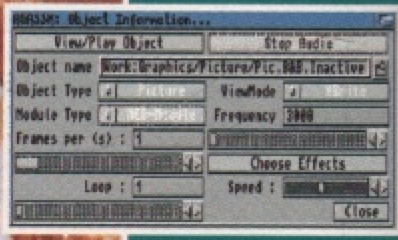
Agassm
slideshow maker



Although this is billed as an AGA slideshow maker it's not limited to AGA Amigas. I'm not sure why the author didn't rename it after pointing out this fact to us in the documentation but stranger things have happened at sea. This is a demo version of the full program which is available as licenceware. It's an OK little program but it's let down by the lack of a save option, no install script (which you get when you buy the full program) and a horrible nag requester which pops up periodically to remind you that it is a demo. The lack of support for datatypes is too restricting as this means pictures have to be in IFF format before you can use them with your slideshows. Fortunately, to make up for this there are some impressive effects for your scripts such as bi-directional scrolling, faders and spirals to make your slideshow more interesting than the usual flick picture methods. There are also options for playing music, animations and scripts at key points and an ARexx port for more versatile control.

AminetPath: gfx/show/agassm.lha (210k)
Available from: Your Choice PD, 39 Lambton Road, Chorlton, Manchester M21 0ZJ. Tel: 01618 818 994. Price: £1.00 per disk of Aminet files plus 70p P+P.

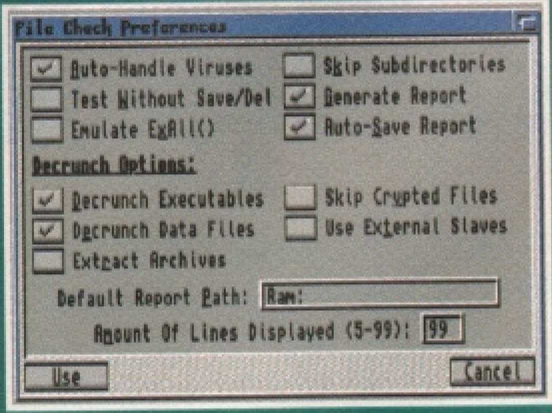




83 %

VirusZ II V1.35

virus killer



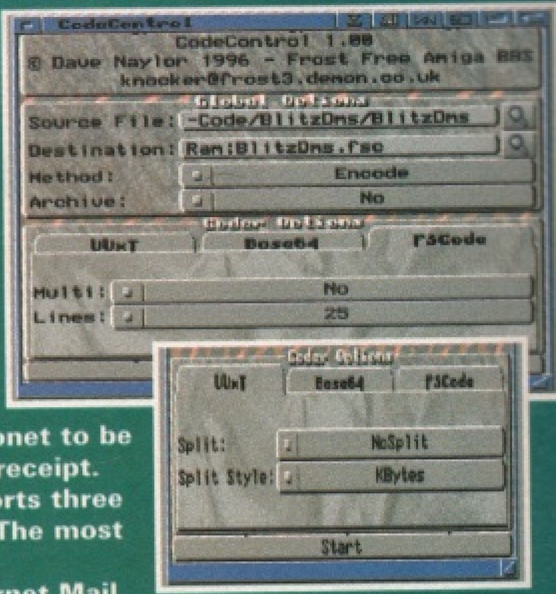
VirusZ now holds the rank of the Amiga's premier virus killer since Virus Checker ceased development. It is an essential tool no Amiga user can afford to be without. We've all heard horror stories about viruses that can do silly things like display daft pictures right down to the really malicious ones that can destroy all the data on your hard drive. VirusZ is the Amiga's equivalent of Domestos and kills all known viruses stone dead. And, as the updates to this program are released so regularly, it's definitely the leader in the field. It saved a particular CU CD-ROM from the Happy New Year virus as it was the only one that could recognise it. The question is not how valuable a virus killer on your computer is but can you afford to get caught out by not using it. Don't take the chance. Get this now.

AminetPath: util/virus/VirusZ_II135.lha (187k)
Available from: Your Choice PD. 39 Lambton Road, Chorlton, Manchester M21 0ZJ. Tel: Tel: 01618 818 994.
Price: £1.00 per disk of Aminet files plus 70p P+P.

89 %

Code Control

GUI



CodeControl is an ARexx script that uses the wonderful MUIRexx extension to get the best out of UUencode and UUDecoding tools. It places files in ASCII messages which can be sent over the Internet or Fidonet to be easily decoded on receipt. CodeControl supports three different formats. The most common is MIME (Multipurpose Internet Mail Extensions) on the Internet and UUEncode with Fidonet technology. Finally, there's support for FSCode which works just as well but never caught on. You use Code Control to select the file you want to encode and then paste the output text into your message. This works very well and saves a lot of time trying to do the same thing via the Shell, especially with the strange command line arguments these binaries use. You also have configuration options based on which format you are using and this lets you split files amongst several messages. To restore them later the user can save the messages as ASCII text and then run Code Control over any one to retrieve the file. It works surprisingly well with an intuitive Magic User Interface GUI. Highly recommended.

AminetPath: util/conv/codecontrol.lha (49k)
Available from: Your Choice PD, 39 Lambton Road, Chorlton, Manchester M21 0ZJ. Tel: 01618 818 994.
Price: £1.00 per disk of Aminet files plus 70p P+P.

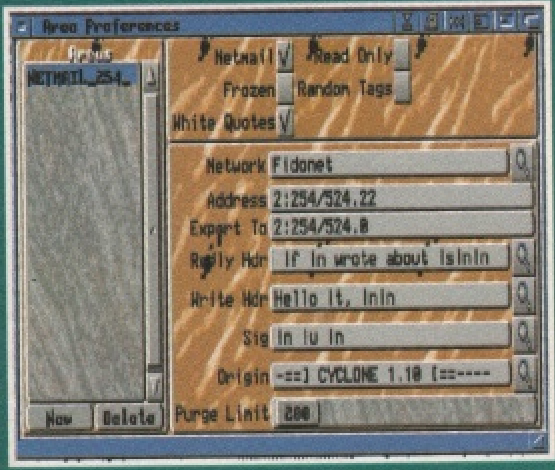
90 %

Cyclone V1.10b

fidonet mail reader

For the last three years, Spot has stood the test of time as the leader of Amiga Fidonet offline readers. The likes of Thor, Mail Manager and April have all taken their share of the user base but Spot has always been the favourite. Now Cyclone, after a year-long wait, has arrived and the situation looks likely to change. Spot hasn't been in development for two years while Cyclone is new, uses MUI, looks fantastic, and has all the features of Spot as well as a whole lot more. MUI is likely to put off a few but Cyclone promises a lot. For example, there is a separate tool for importing and exporting all mail packets to make upgrading easier. You also have options for coloured text, HTML reading, Amiga Guide and a whole host of configuration options. Cyclone is still at beta stage, hence potentially unstable, but it has a supportive author and is worth checking out (OS 3+ only).

AminetPath: comm/mail/ cyclone110b.lha (256k)

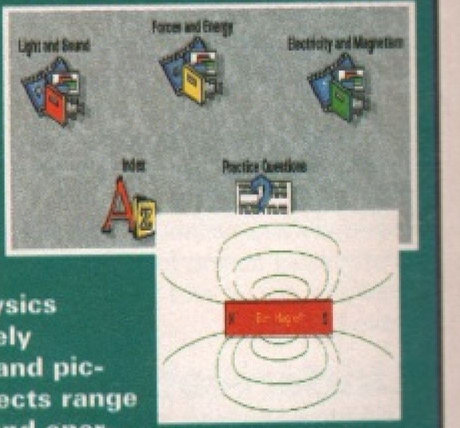


Available from: Your Choice PD, 39 Lambton Road, Chorlton, Manchester M21 0ZJ. Tel: 01618 818 994.
Price: £1.00 per disk of Aminet files plus 70p P+P.

87 %

GCSE Physics Tutor (2 disks)

physics tutorials



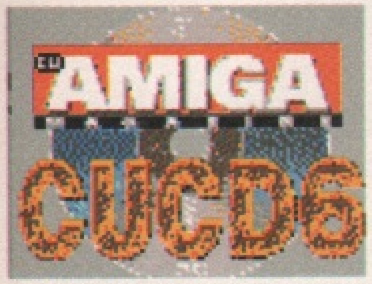
Here's something which we don't see that often on the Amiga yet it could be invaluable to a large number of students. Physics Tutor, spread across two disks, features several lessons on physics and in some cases uses examples from GCSE Physics exams. The presentation is lively enough as it uses animations and pictures as well as text. The subjects range from light and sound, forces and energy, electricity and the wonderful world of magnetism. The tutorials disk uses a multiple choice format and you get a hint button with the actual lessons. The second disk contains examination questions but there's no hint button this time. Each section has a set of questions at the end to test what you've learned earlier. And to top it all there's an invaluable index option and a quick reference guide. Students should lap this up.

AminetPath: N/A
Available from: Norwich PD, 43 Motum Road, Norwich, Norfolk NR5 8EH. Tel: 01603 504 655. Price: £2.95.

82 %

What's on Super

Here's your guide to all the hot stuff on this month's CD-ROM with details of how to work it all.



As with our prior cover CDs, CUCD6 can be used either by booting on a CD32 or A1200/4000 with adequate CD32 emulation. The CD will not autoboot under any Kickstart earlier than 3.0. If using the CD via Workbench and intending to run software directly off the CD then it's important to first click on the 'Init CD' icon. This sets up various assigns and makes MUI 3.6 temporarily available if it is not already installed.

It's worth noting that running software directly from CD is a touch-and-go business. While we've gone to a lot of effort to make many programs run from the CD, others may have to be dragged to your hard drive either manually or by running an included installer. 'Init CD' also runs the New Icons patch so don't be surprised if the icons change to more attractive designs afterwards.

A word on demos and games

Demos and games are almost never coded in a so-called OS legal way. That means that while they may work for us, they might not work for you for several reasons.

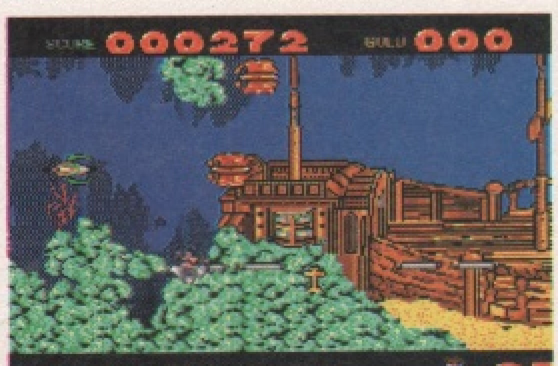
Either your hardware set-up is slightly different or some third party software running on your Amiga may upset the demo or consume resources that the demo/game requires. Please do not assume the CD is simply 'faulty' if any of this software refuses to run.

There are things you can do to make the software more likely to run. Closing down any running software, exiting screens and such forth will free up resources. It might be better to cut to the chase and copy the demo/game onto your hard drive and then boot with no startup sequence. This involves resetting and holding down both mouse buttons, then press start with no startup-sequence.

You'll then be placed into the AmigaDOS so you'd need to know enough about that aspect of your Amiga to navigate to where the offending software is and run it. As a general rule, if the game or demo still doesn't work then it's incompatible with your machine. Some demos will only ever work when run in this fashion. If you get a requester asking for a specific volume then the software needs 'assigns' set up and so it's fairly likely it has an installer that should have been run.

Underwater Capers

This month's cover game is the bizarrely titled Seemore Doolittle's Underwater Capers. This horizontally scrolling shoot 'em up was written using Reality Game Engine, the new games authoring software which promises to allow people with no programming experience to write professional quality games.



Audio tracks

This month we feature a special selection of remixed audio tracks from Australian musician Samuel Gilbert. Based in Adelaide, Samuel has used OctaMED since the first versions and draws on a wide variety of sources for the sound samples to set the atmosphere in his unique uncluttered compositions.

His work shows a maturity and professionalism concerning both the technical quality and the clear scoring of the music. He cites the Prodigy and Aphex Twin among the inspirations to the jungle style underlying some of these works.

Samuel tells us that his music reflects his moods at the time of writing; by the sound of these tracks he must be feeling complex and laid back while he was slaving over OctaMED.

They are titled as follows;

Track	Title	Length
2	Believe Me	4:50
3	Hypnosis	4:55
4	Emerald Dreams	4:55

The audio tracks can be played with any normal CD player and can be found as tracks 2, 3 and 4 respectively. Some audio CD decks may mistake the first track as audio when it is in fact the data track. This will result in them playing awful noise so don't risk it and spool on to track two right away before the CD starts playing. Enjoy!

What's in your drawers

When the CUCD6 icon is opened from the Workbench, you will see that we haven't made any major changes in the layout for once! Those of you who have used CUCD5 mounted on last month's cover should find things reasonably familiar. We are of course always trying to perfect the layout of the CD, and have tweaked the standardisation a little bit. Some readers have requested we try to make more of the software run straight from the disc, and these tweaks should help that. The disc is now structured like a standard Workbench disc to simplify its usage.

The Workbench 3.1 drawers such as Prefs, System, Utilities and Tools are in the root directory. There's no Support drawer and everything previously found in this drawer has been moved into Tools, System and Utilities as appropriate. The Magazine drawer has also moved into the CUCD drawer.

In the root directory of CUCD6

Imagine 4.0

The star turn on this month's cover CD is the most up-to-date version of the most popular 3D rendering software on the Amiga. The Imagine directory contains both Imagine.fpu for users with floating point units and Imagine.int for those of you still without an FPU. Make sure you use the FPU version if you have an FPU installed in your machine, it's a lot faster! Imagine will run direct from the CD, however if you plan on using this software much, you would be advised to install the software to your hard drive. There is an installer icon in the Imagine directory. You'll also find over 100Mb of objects and other support data and software for Imagine within the main Imagine drawer.



CD-ROM 6?



Utilities
You will find Multiview, More, Clock and some tools for working with NewIcon images in this drawer.

Tools
Contains the Workbench 3.1 Tools drawer.

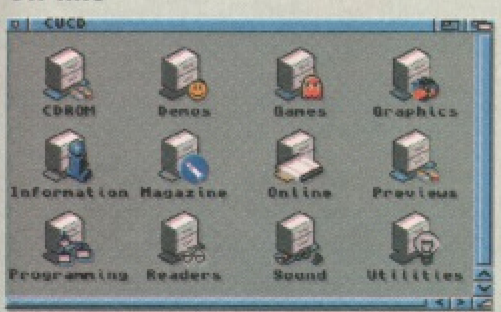
Prefs
The Workbench 3.1 Preferences drawer and New Icons prefs.

System
The 3.1 System drawer in addition to the Support drawer from CUCD4. The latest versions of MUI 3.6, PPShow, Visage, Flick, Parnet, NewIcons, HappyENV, GMPlay, Play16, DeliTracker, OctaMEDPlayer and SuperView are all crammed here to aid access to the rest of the CD. There is also an up-to-date version of VirusZ.

WWW
There's 45Mb of Internet WWW sites which can be browsed directly off the CD without need of an Internet connection. Special CD Amiga versions of the premier Web browsers, AWeb and IBrowse, are provided to access the sites where an improved main menu system is now included for easier navigation around this treasure trove of information and entertainment.

Inside the CUCD drawer;

On-line



Another collection of goodies for Internet users. Included is a full Aminet index, a MUD system, the latest release of Miami, Webdesign software and much more.

Programming
This month we have a developer's system for Directory Opus 5.5, some Blitz FAQ web pages, and Gnu-C and MUI directories containing plenty to keep coders busy.

Graphics
CUCD6 has plenty in the graphics directory this month to keep your eyes happy. There is a big directory of anims, some 64 colour icons, CyberGraphix support files, Star Trek Workbench patterns, the Artstudio package including a demo of the latest v2.0 release and plenty more.

Readers
We've put in quite a lot of readers work on this month's CD. Picture files are now in separate directories for IFFs and JPEGs, although credits for both directories can be found in Credits. The Utilities drawer contains a database program, LZHUtils, Icon support, some C support utilities, a program for producing banner text on your printer, and as always, more. The mod collection contains plenty of tunes including a nine disk collection sent in by David Melville. Under Anims you`ll find some real oddities and some nice work from Dale Hemenway, who clearly has too much time on his hands. There are plenty of readers' games too, including an excellent variation on the Tetris theme, a fast two player split-screen 3D racing game and for the nostalgic PC haters out there a text adventure called Curse of the PC!



CD-ROM
Here you'll find software for CD-ROM users, including the AMICDFS2 filing system, a demo of Make_cd (a new CD-ROM writing package from Germany) and a new audio CD player.

Demos
As usual we've included all the latest top 'scene' demos including the Aircombat demo, which is quite a treat for users with 8Mb machines and many many others. There's hours of demo viewing entertainment to be found here.

Previews
There is a preview this month of Almathera's latest package for the multimedia / desktop video users, rather appropriately called DTV.

Information
Here you'll find a massive AmigaGuide to the shared libraries of the Amiga which should answer a lot of questions about this often tricky subject. There is also a guide to the A1200 with some in-depth technical specs and IFFs showing memory structures and block diagrams.

Utilities
There is plenty here this month to make your Amiga a more exciting place to visit. MPLS patch is a MUI system for sharing file formats, a tooltypes editor and an assortment of other wonders, including version 3.6 of Shapeshifter, the amazing shareware Mac emulator which basically gives you a whole new computer for the cost of the shareware registration.

Sound
More mods to amuse the ears, a MIDI player, Hippoplayer and the bizarre AlgoMusic.

Games
Entertainment central with a collection of PD and demo games. As always we can't guarantee that they'll work on your particular Amiga so do read whatever documentation is provided, checking system requirements and so on. Be sure to check out Uropa2, a fast combination 3D isometric/raytraced game set on Jupiter's moon and DOOPSI, a powerful but easy to use object oriented graphic adventure authoring system, which you can use to write your own version of Monkey Island. Lots of fun to be had here.

Driving CUCDs

Generally driving CUCDs is as simple as clicking on an icon of something you want to run, play, see etc. You should find it will automatically activate a player, viewer or run the program without further ado. Of course if you access CUCD from a directory utility, then you can use your own preference of players, viewers etc on the specific files.

We can't emphasise enough the importance of clicking on any readme or other documentation files inside each directory. There's simply too much material for us to detail here so you'll have to explore, read the documentation and see if each program or whatever is of use or interest to you.

So have fun exploring CUCD6 and don't forget to send us any work of your own so we can include it on later CDs! Also feel free to write into the magazine and tell us what you'd like to see on future CDs or how you'd like to see them organised. Address all letters of this topic to CD Editor.

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AGA255 DELIGHT EXPLORE exclent demo
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AGA259 INTEL-OUT another very good demo
AGA260 SOMEJUSTIC94 Demo of the monthbrillant whirl effect. RECOMMEND
AGA262 TO THE DEATH very good STREET-FIGHTER clone with very good graphic.
AGA263 GEORGE GALAXO (2disk) brillantmultilevel shoot/platform game. RECOMMEDN
AGA265 MISSILE OVER ZENON (2disk) Brillant3D missile commander with fantastic graphic
AGA266 TEAM-HOI DINO PLATFORM excellent dinoplatform Note:this disk was a commercial games
AGA274 MUSIC 2 SURVIVE 2disk 8 excellentmusic master piece. well worth getting
AGA271 RAVE MAXIMUM OVERDRIVE II (2disk)
AGA278 CHANNEL Z ISSUE 1 (AGA) (2disk)
AGA base disk magazines. RECOMMENDAGA disk magazine topic.demo/music
AGA285 WORKBENCH BACKDROP VOL 3
AGA295 DE-LUXE MONOPOLY- Board game.V addicted
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AGA298 ROCKET 2 set deep underground brillantgraphic. even better with 2 player
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SEE PAGE 1 FOR MORE SOFTWARE FOR YOUR AMIGA

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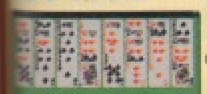


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U343 LITTLE OFFICE - database/wordprocessor/spreadsheet
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U357 BON APPETIT DATABASE many receipt
U364 HOME ACCOUNT - Account program
U368 AMICASH regarded as the best account prog. Excellent
U369 JOURNAL full feature account program
U385 LORAN NOTE BOOK database & world map
U390 DATA BASE compilation - best sell to date
U398 MORTGAGE CALC calculate mortgage repayment rate etc
U426 MONEY PROGRAM very good account program
U437 ACCOUNT MASTER V2.8 new account program
U520 HOUSE INVENTORY - ideal for home insurance
U524 ADDRESS PRINT V2.1 store & print addresses
U587 TEXT-PLUS V4.0 pro require HD & 2meg
U681 TEXT ENGINES V4.1 latest 36,000 word spellchecker
U686 INVENTORY 2 details of home contents, for insurance
U712 EDWORD PROFESSIONAL truly the best wordprocessor
U722 EASYCALC + massive spreadsheet max 92583 cells
U756 PAY ADVICE ANALAZER - money prog.
U802 ADDRESS PRINTING print addresses on labels
U806 PAY ADVICE V3 account program
U810 LABEL MAKER - print labels etc. new
U900 THE MONEY PROGRAM - Accounts
U901 LOANS ACCOUNT
U954 UNIFORM One of the best invoice makers
U959 ACCOUNT MASTER V2.2 (latest) program
s up to 1000 entries per account

18 DEMOS

MUST BE 18 OR OVER

X80 CINDY CRAWFORD (2)
X74 MADONA (SEX) (3)
X01 SHOWER GIRL
X03 BODY TALK (2)
X09 MARIE WHITTAKER
X25 SABRINA SPECIAL
X26 DIE FILKINGER
X28 MADONA EARLY DAY
X29 KATHY LLOYD
X30 CALENDER GIRL
X31 MAY FAIR
X32 UTOPIA (4 DISK)
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X45 PAGE 3 GIRL
X49 GON GON GIRL
X70 TINA SMALLHOT
X75 CINDY CALENDAR 95
X91 HOT BABE 1
X96 HOT BABE 2
X98 HOT BABE 3
X99 HOT BABE 4
X100 HOT BABE 5
X101 BIG GIRL II
X102 FEMALE BODY BUILDER
X103 GIRLS GIRLS
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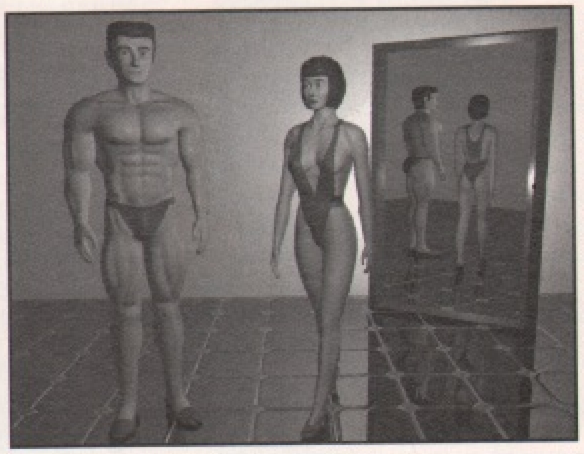
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CD-ROM Scene

CU Amiga Magazine's newest recruit, Andrew Korn, tucks into this top selection of CDs.

Imagine 3D PD

If you have ever wanted an object for Imagine that you couldn't be bothered to make yourself, it's probably on this disk. There are 275Mbs of object files here, covering everything from the obligatory Klingon cruiser to a toilet, taking in Stonehenge and Boeing engine parts on the way. Most of the objects are complete with the textures to render them straight away. However, you will need the full texture set from the FPU version to use them all.



There are also almost a thousand textures in their own directory in IFF24 and TARGA formats, ranging from small but nicely tessellating brick textures to a lovely 2Mb earth map. These are mostly really useful textures; the kind of thing which you can actually imagine (sorry) wanting to use more than once. If you've been looking for a realistic green stucco effect, or a pink marble, this is the place to look. For added realism, why not apply one of the supplied bump maps?

There is an index directory covering the full range of textures, which makes hunting down the one you want much easier. However, the index doesn't include the objects. Some of the objects are accompanied by an IFF or JPEG sample render in their directories; most aren't though. This means you need to quick render to really evaluate them properly. It would have been nice to have had a printed booklet showing all the textures and images but you can't expect everything.

This disc is almost as much fun to browse through as it is to use. I now know what a Mitsubishi Zero looks like, and the space directory is pretty much a history of the sci-fi movie. I'm not sure I could ever find it in me to render an NTSC monitor, but it's there if you want it. If you are a regular Imagine user, buying Imagine PD 3D could be the answer to a lot of wasted time and aggravation.

Available from: Weird Science, 1 Rowlandson Close, Leicester, Leicestershire LE4 2SE. Tel: 0116 234 0682 Price £19.95 plus £1 P+P.

88 %

Multimedia Backdrops





Multimedia Backdrops is a collection of 100 multimedia backdrops. If 100 seems like a surprisingly small number for one disk, it is because the backdrops are stored in IFF24, TARGA and TIFF formats for easy use on PCs and Macs as well as on Amigas. The files are also stored in both NTSC and PAL resolutions at 752 by 480 and 768 by 576 pixels respectively.

There is no doubt that this is an easy CD to use. All the images are indexed in five pages of thumbnail copies for easy reference, the indexes in all the above formats and JPEG too as an added bonus. The multi-format system means you can use the pictures straight off without any kind of file conversion, which some people will consider a real plus. As far as I am concerned, that is the problem with this disc. Given that each image is on this disk in six different formats, it seems a bit like buying a sixth of a CD. Converting file formats is really not much of a problem these days and this seems rather wasteful to me.

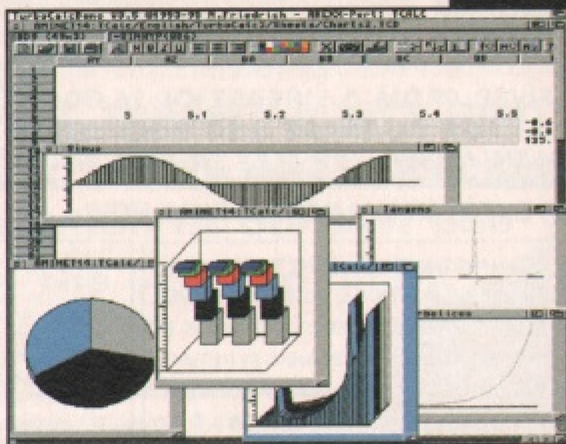
The images are pretty much what you would expect: water ripples, carpets and brick patterns. The artwork is of a fairly high quality but a lot of it is, frankly, rather dull. There are better collections out there, and unless the thought of file format conversion makes you break into a sweat, I would look for one of those.

Available from: Weird Science, 1 Rowlandson Close, Leicester, Leicestershire LE4 2SE. Tel: 0116 234 0682 Price £29.95 plus £1 P+P.

62 %

Aminet 14





Another month, another Aminet CD. This regular round up of all the best uploads to the official home of all things Amiga PD contains the usual eclectic mixture; 135Mb of mods, 288Mb of pics, 109Mb of business software and a few 100Mb more of assorted comms stuff, text files, utilities, games and demos.

The compilers of the Aminet collection like to theme their discs,and this one is no exception. It is a business special, with a full version of TurboCalc v2.1, a German spreadsheet which Amiga Magic Pack purchasers will already own, but for anyone looking for a spreadsheet, this is worth the price of entry alone. Although it doesn't have the power of its bigger PC and Mac cousins, it is probably the most powerful spreadsheet package available for the Amiga. Alongside this is a cut-down demo version of v3.5, which promises to add a few more power functions and close the gap a little on what is available on the other platforms.

The business section also contains a fair assortment of demos of commercial releases and utilities, including, wonder of wonders, a patch to force Imagine to use the standard Workbench ASL requesters. There is a directory full of databases, mostly episode guides for trekkies and video collection cataloguers, but there is also an electricity consumption database written in Amos for the truly deranged amongst you.

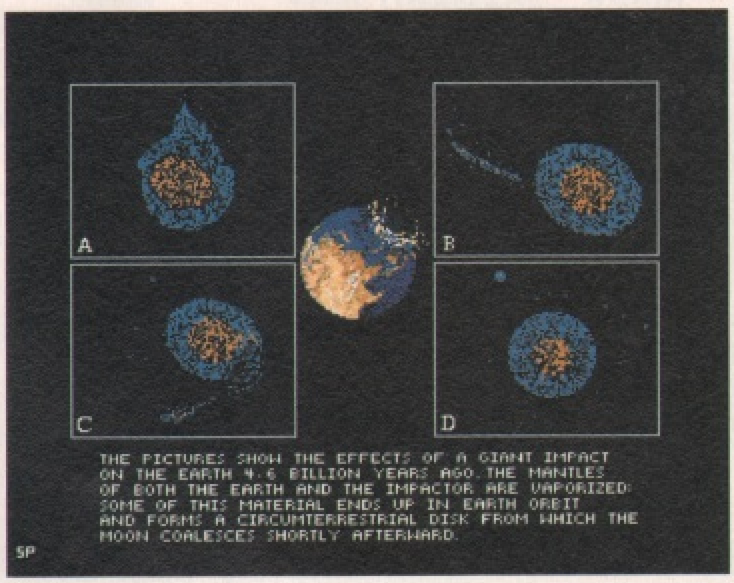
On the entertainment side, there is the usual assortment of pictures, animations, demos and music. The game directory contains the inevitable Worms backdrops, which vary from the laughable to the hysterical and a brave and intriguing attempt at a multiplayer PD Colonization clone.

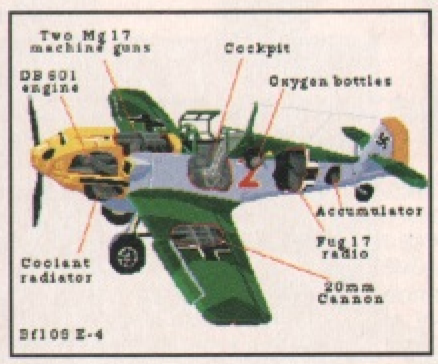
I wouldn't say this was the most impressive Aminet collection there has ever been, but the easy to use AmigaGuide front end gives you access to a library of software so large and varied, you are bound to find wonders in it.

Available from: Weird Science, 1 Rowlandson Close, Leicester, Leicestershire LE4 2SE.
Tel: 0116 234 0682
Price £14.90 plus £1 P+P.

90 %

The Learning Curve





650Mb doesn't seem so much when it is gobbled up by huge graphic and sound files. When, as with this CD, the majority of it is text, you realise how much it really is. Frankly the amount on this disc is breathtaking. If you ever get stranded on a desert island with only one CD, I recommend you take this one.

The Learning Curve claims to be educational software; it is more like a small library. It is organised into subject areas from aircraft to science (no zoology?), each area containing a wealth of text files, graphics or utilities. For instance, under philosophy/modern I found directories covering Abbott to Voltaire, and these are no brief overviews. Under Voltaire is the complete text of Candide, and under Abbot is the whole of Flatland. In the section entitled 'religions' I found the Egyptian book of the dead, which I have been after for ages, and the complete works of Shakespeare are bound to be useful.

If the collection of literature and philosophy isn't to your taste, you can try the science section and learn how engines work or what the stars looked like the day you were born. For the more bloodthirsty the aircraft directory contains specifications and diagrams of all the weaponry used in the Gulf War and a lovely anim of a Russian Mig aircraft crashing at the Paris Airshow.

Being an arty type, I rushed off to explore the art directory. It was well supplied with PD and shareware paint packages, fractal software and stereogram generators and includes the wonderful Minimorph. The classic art directory was the only real disappointment. Although the pics were well digitised, the selection of the Mona Lisa, a Constable collage and a rogues gallery of impressionism was uninspired. The Learning Curve is meant to be for adults as well as children; apart from the junior education directory it is an encyclopedia resource, not an educational tool. Although the junior education directory contains plenty of nice little educational games and tools, if you do buy this CD for your kids they probably won't learn much - you'll be far to busy playing with it to let them have a go.

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V12-PD

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IAT PD COMPANY OF THE YEAR 1996.

AND NO IT WASN'T FIXED. WELL, HOW ON THIS GREEN, ROUND SPHERE WE CALL EARTH DID WE GET THIS AWARD? WELL, THIS IS WHY V1 GOT THE GOLD:

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AND OF COURSE, THE FIRST STEP INTO V12 PALACE (TAKE THE 12TH TURN OFF FROM THE M180) IS THE CATDISKS. WHAT DO YOU WANT FROM A CATDISK, COS IT'S LIKELY WE WILL HAVE INCORPORATED IT INTO THIS BALLISTIC LITTLE DOUBLE BARRELLED BABY! OVER 45,000 LINES OF TEXT, IT WILL AUTOMATICALLY DETECT WAHT MODEL OF AMIGA IT IS IN AND CHANGE AS BOOTS TO USE THE SYSTEM TO BEST EFFECT, HAVE A HD AND WANT TO INSTALL BOTH DISKS TO IT? NO PROBLEM, IT'S ONLY ONE MOUSE CLICK AWAY, AS WELL AS ANOTHER ICON TO REMOVE IT ALL TOO! DON'T HAVE A HD BUT WANT TO INSTALL IT TO RAM INSTEAD? NO PROBLEM EITHER, OPTIONAL RAM INSTALLATION FOR OVER 1500% SPEED INCREASE, AND ALL IN 1.5 MEG OF RAM (CHIP OR FAST)! HAVE THE STANDARD 1 MEG AND WANT TO RUN IT COMBINED FROM RAM AND FLOPPY? NO PROBLEM EITHER!! IT WILL INSTALL CERTAIN REGULARLY USED PARTS OF THE CAT FOR A 100% INCREASE IN SPEED! A MOUSE DRIVEN INTERFACE, ANIMATIONS, MUSIC, PICS, STILL HIRES LACED GRAPHICS (EVEN ON AN A500!) AND THE HUMOUROUS LISTINGS THAT WE ARE WELL KNOWN FOR. OH GO ON, SEND FOR IT. IT'S GOT GAMES TOO NOW ! ! ! !

FOR A CATDISK, RING THE NUMBER ABOVE, OR WRITE AND ASK. IT'S FREE THIS MONTH SO GET IT AND START SEEING HOW A PD COMPANY SHOULD BE! WHAT HAVE YOU GOT TO LOSE? WE DON'T BITE YOU KNOW. WHEN YOU'RE LOOKING......

WELL ANOTHER MONTH, ANOTHER VERY BADLY RUSHED TOGETHER ADVERT...NOTHING CHANGES. JUST THINK I'LL LEAVE YOU WITH A SMALL QUOTE FROM THE V12 BOOK OF WISDOM (AVAILABLE AT ALL SECOND RATE BOOK SHOPS), WHICH IS: YOU CAN BE BAD ALL YEAR. JUST BRIBE SANTA.......

GREETS THIS MONTH GO OUT TO WOLFMAN, TOPDOG, FREAK AND BUDDA OF NFA, ICEMAN OF CARNAGE, ICON OF LSD, MR SPOON, MICHAEL CARTER, JOHNNY 5, STEFAN MANSIER, THE BEYOND THE FRONTIER CREW (HI), ROB DAVAIU, RIGSBY,GUNTERHEIM SUPPLIES, MADONNA, KYLIE, DANNI, BONJOVI, KISS, ANDY GIBSON (DMC DESERVES

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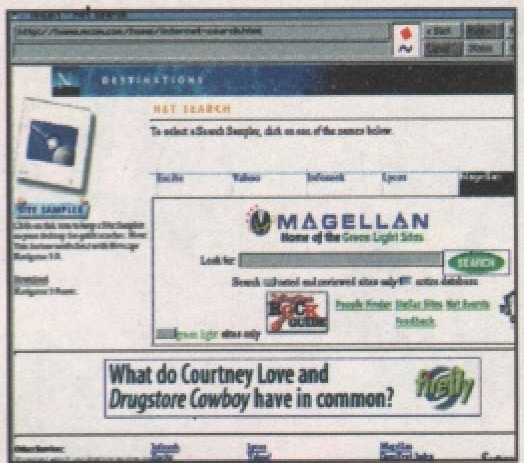
Amiga Workshop



CU Amiga Magazine wishes its readers a very merry Christmas. We've got a cracking tutorial section as our last one of the year. So enjoy.



Soundlab p88

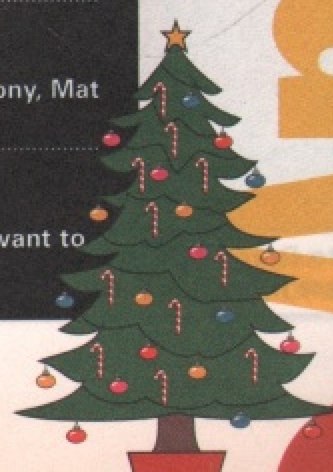


Wired World p84



Masterclass p96

Feedback



Art Gallery

Festive art, that's what we need this time of year. See right for proof. Ahh, doesn't it just make you feel all warm and cosy inside?

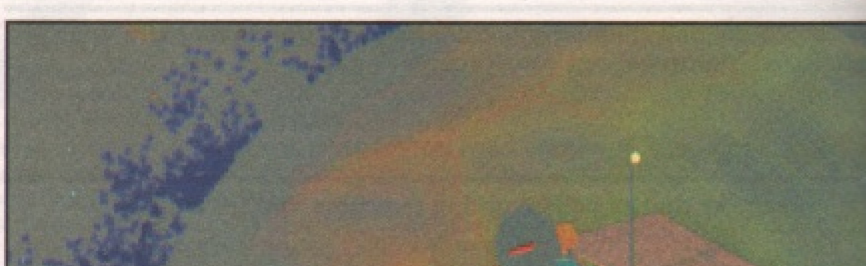




Artist: These two images are from Brainstorm Multimedia (tel: 01732 844307), Mark Roules and Andy Price, who have been creating art and music on the Amiga for six years. Amiga: A1200, 6Mb RAM, 80Mb HD Software: DPaint5



Apologies to Derek Thompson whose artwork shown here appeared last month under the wrong name.



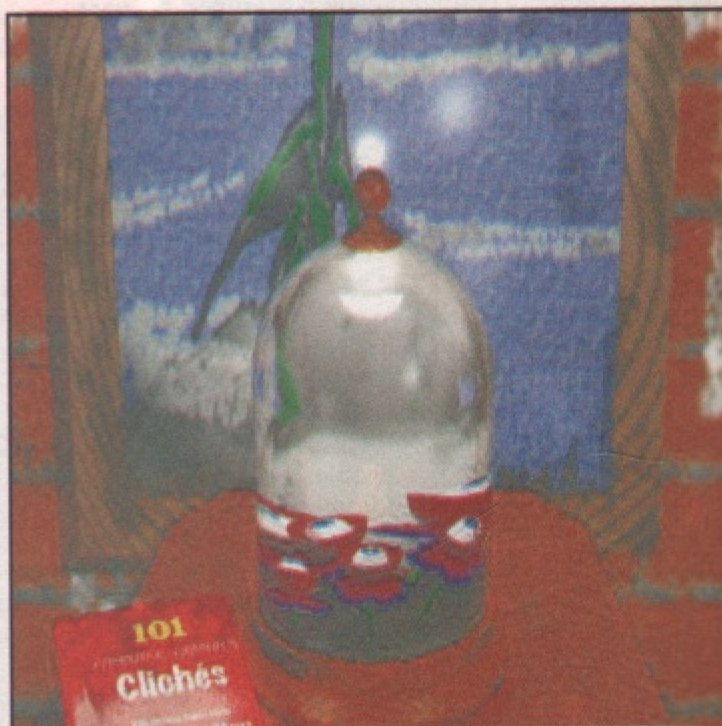
Artist: J.R. Tolson, Goole.
Amiga: A1200 Software: Imagine, DPaint4.



Artist: Mark Sheeky, Cheshire.
Amiga: A1200/030 Software: Imagine 4



Artist: Andy Kinsella, Lancashire.
Amiga: A1200 Software: Imagine 3.0, ImageFX, DPaint5



Artist: Andy Kinsella Amiga: A1200
Software: Imagine 3.0, ImageFX, DPaint5

Imagine 4.0

PART 1 You've got the cover disk and read the feature. Now it's time for you to learn how to use the best rendering program give-away ever.

Imagine is one of the most powerful image rendering systems available. The version given away on this month's cover disk includes brand new features which add whole new ways of creating images. Nothing on the Amiga, except perhaps the professional level package LightWave, can get close.

Over the next few months we'll be explaining what these new features are, how they work and how you can use them to their best advantage in your own projects. Whenever possible, we'll include some examples on the cover disk or CD-ROM so you can try them out for yourself.

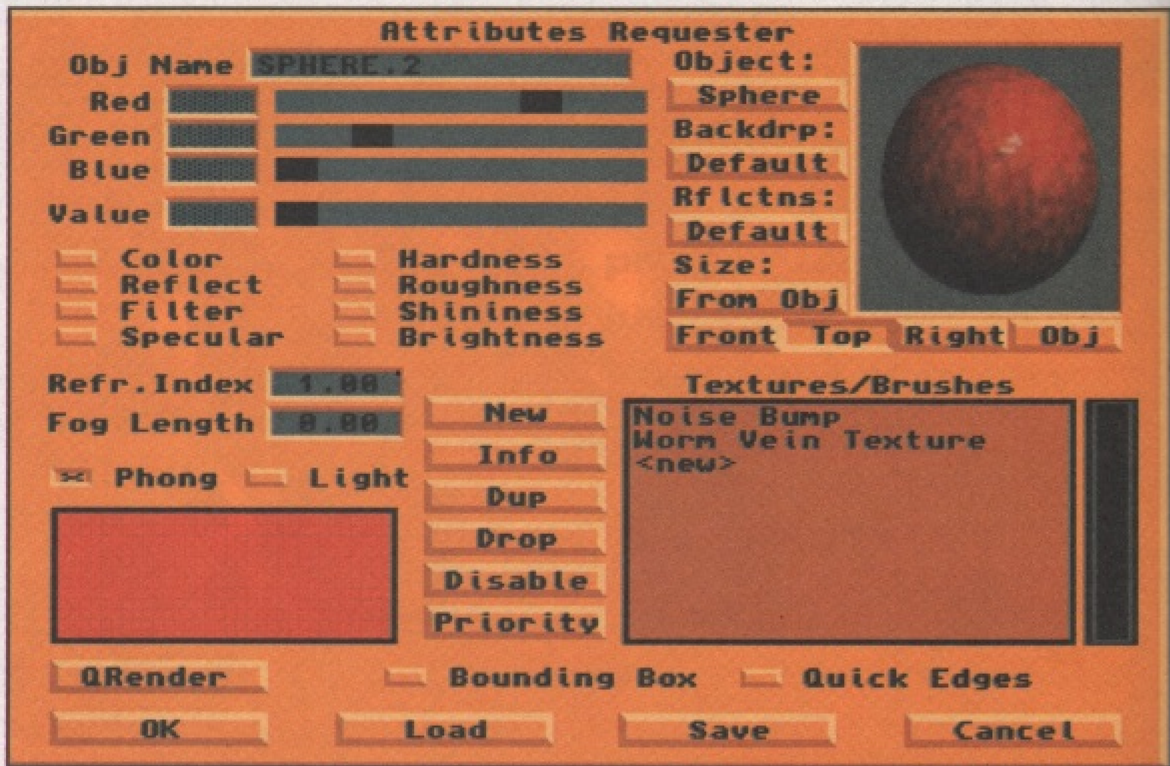
As Imagine 4 works much the same way as previous versions, you can safely refer to the tutorials in previous issues for any extra help that you may need (Imagine 3 tutorials ran from January 96 to November 96).

Also, we'll hopefully be putting these tutorials onto a forthcoming CD-ROM cover disk in HTML format for easy access and to save time having to relocate all the old issues of CU Amiga Magazine that they appeared in.

New AGA modes

Support for AGA screen modes is one obvious new improvement in Imagine 4 (as well as some support for larger screen modes used by graphics cards). Most importantly, this allows an editor display of 256 on-screen colours and this enables textures and attributes to be test-rendered before you apply them.

If you have a reasonably fast AGA Amiga (i.e. an A1200 with a 030 or better, or an A4000) then you should try this graphics mode as it will help you get a feel for how the attributes work. There is a pay-off in terms of speed but it's worth it especially when you are getting to know how the program works.



▲ Imagine 4 can now preview textures and attributes for you. This saves a lot of time as you don't need to perform an entire Quickrender to see what an effect looks like.

To make sure your Imagine is running in 256 colour mode, you'll have to go to the Preferences editor. You'll need to make sure the following are set properly:

Mnemonic	Value	Comment
USAA	T	Use A(G)A chipset if available
S256	T	Run 640 by 480 Imagine in 256 colour mode
RTGS	T	Show real-time grey scale image
SMOD	0	Imagine screen width 0=640

With these settings saved, quit and restart Imagine. When you go to the Detail editor and adjust an attribute, you should see a new 256 colour preview.

Blobbing out

Blob modelling is a new feature to Imagine 4. Creating realistic organic shapes has always been tricky in rendering programs but Imagine tries to make it easier by introducing the concept of blobs.

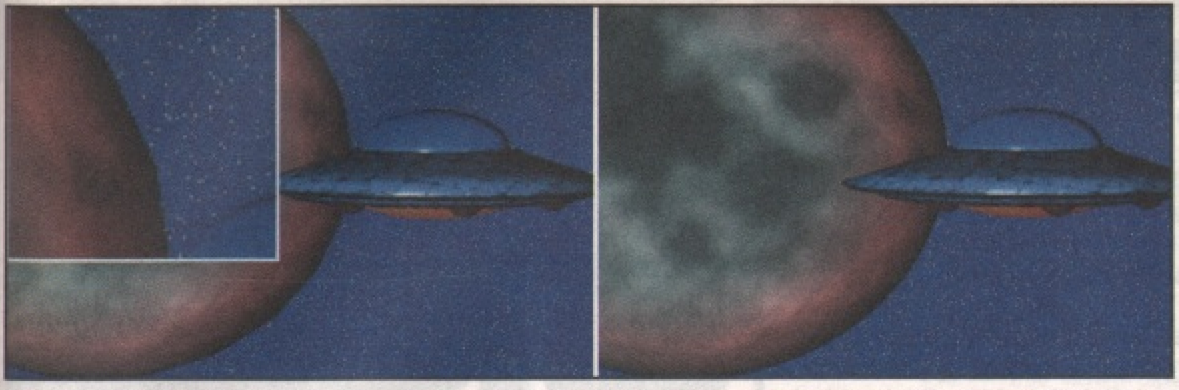
A blob is a group of spheres, with a special skin applied to them to join them up. Think of some marbles inside a balloon with the rubber stretched in all directions by the marbles. If you can manage to picture this, not only do you have a very overactive imagination but you've sussed out blobs.

Before we go any further, it's essential that you understand the difference between the two different types of Sphere which Imagine uses. There's the Sphere which is added when you use the Add Primitive option (F5) and there is the Sphere which is added when you use the Object menu option Add Sphere.

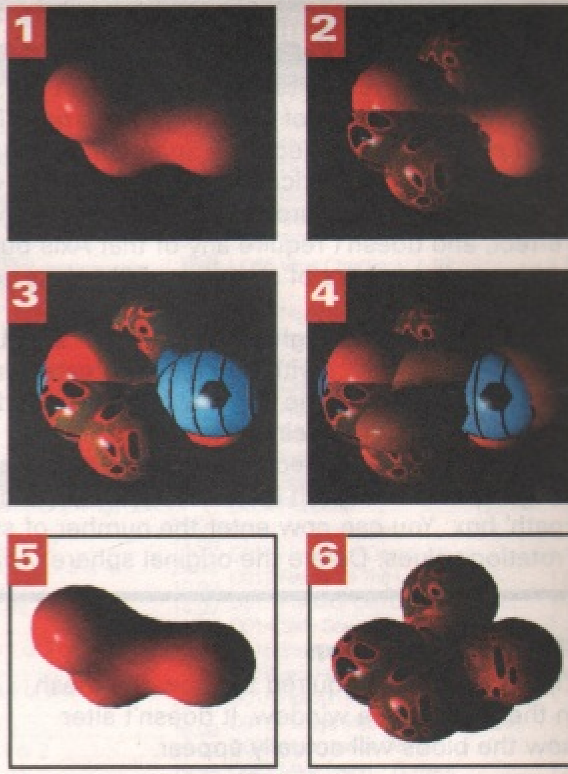
The Sphere added via the Primitive menu is an object constructed from facets which behaves a lot like a Sphere. In fact, if you don't look too closely, the object created with the default settings is often perfectly acceptable. However, zoom in a little and you start to see that the outline is composed of a series of straight lines and isn't a perfect sphere at all.

You can adjust the number of edges and points when creating the sphere object, and eventually you'll get to the point when it looks good enough. The bad news is that the more points and faces you add, the more memory is consumed and the longer the render times become.

To help counter this problem, Imagine offers another Sphere: the perfect or CSG Sphere. Although this sphere looks like any other in the editor views, it's entirely different. When it comes to rendering, Imagine knows that it is a perfect sphere (and not an object which happens to look like one) and treats it accordingly. As a result, the CSG



▲ The image on the left was rendered in Scanline mode, the image on the right was Ray Traced. Notice how the curvature of the planet changes (shown in magnified inset) and yet the curved surfaces on the flying saucer remain the same.





▲ Above: examples of different attributes using the blob to add to the scene. Try altering Strength for some weird results.

Sphere is rendered a lot more quickly and takes up less memory.

So why use the other sort of Sphere at all? The CSG Sphere has some severe limitations. First of all, it cannot have its shape altered. You cannot squeeze or stretch it: if you did, it wouldn't be a sphere any more and so Imagine couldn't use its short cuts when rendering.

Secondly, when rendering in Scanline mode, the special Sphere rules cannot be applied and the CSG sphere is automatically converted back into a facet-based object.

For example, say you want to create a planet for a space animation. You use the CSG Sphere, apply some textures and place in the middle of a starfield. You then create a spacecraft and have it fly past the planet.

If you render the scene in Ray Trace mode, everything will look fine. The planet will have a smoothly curved surface. However, use the faster Scanline mode, and the limb of the planet will look as if it's been constructed from straight lines (because it has).

Imagine 4 helps a bit and allows you to control the number of points used when a CSG Sphere is rendered in Scanline mode. If you go to the Preferences editor, you'll find an option called SPHP. Increase this number, and the Sphere will appear smoother.

CSG Sphere	Ordinary Sphere
It's a perfect sphere	Limited by the number of points
Uses a small amount of memory	Uses memory depending on points
Cannot be altered	Can be reshaped.
Cannot be edited as points/faces	Can have points/faces moved or deleted
Renders perfectly in Ray Trace	Obvious facets in all render modes

A load of spheres

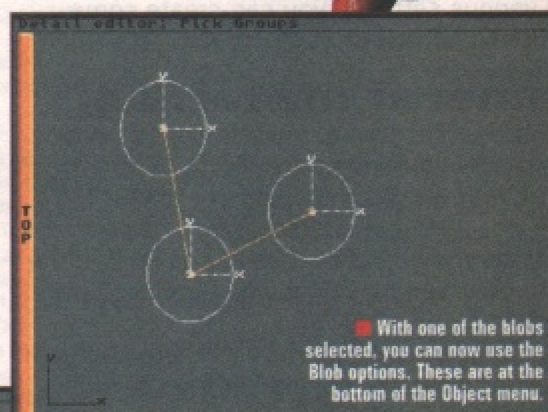
The point of this, is that Blobs can only be constructed from CSG Spheres and no other object. With that out of the way, it's time to create some blobs. Starting a new project in the Detail editor, add three Spheres using the Object menu item Add Sphere. It's just as easy to add one sphere, and then Copy and Paste. Arrange them as in the first picture just below the eight examples of different attributes shown right. Once you've selected a blob you can now use the Blob options. There are three options at the bottom of the object menu which are as follows:

Generate mesh

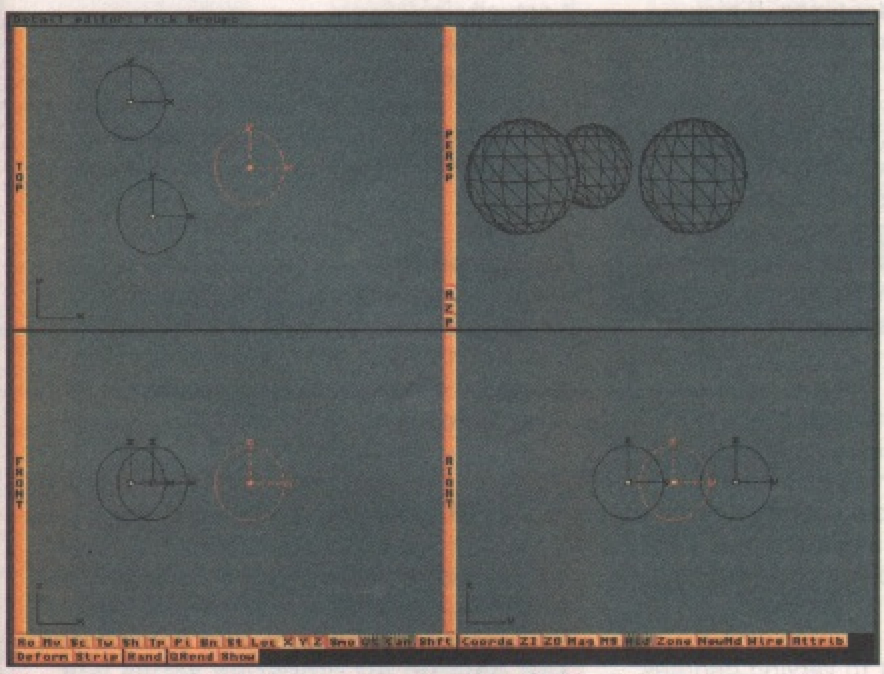
This creates the skin which joins the spheres together, creating the blob.

Blob Attributes

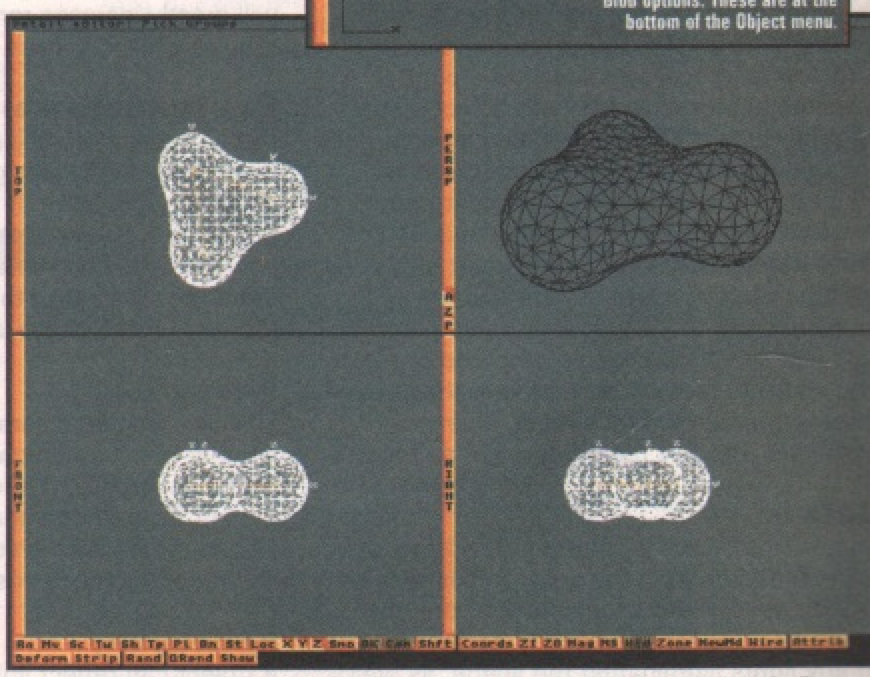
This allows the blob to be fine tuned (!) by adjusting the detail in the mesh, and the strength of the attraction between them. Think of the how the marbles in the balloon can stretch the rubber tightly or not so tightly.



■ With one of the blobs selected, you can now use the Blob options. These are at the bottom of the Object menu.



▲ Now select them all and use the States menu to Group them all together. You'll see a line appear, joining their axes together, as shown above.



▲ When you select Generate Mesh, the blob will be created. You can see the effect immediately in all three windows.

Continued overleaf ▶▶▶

How to make your own starfield

I've had a few requests regarding the 'Create your own Starfield' project in the November issue of CU Amiga Magazine. There appears to be a problem assigning an Axis object to a Sphere and using that as the path. If you remember, this spherical path was then used as a way of scattering lots of smaller star objects around. Here's a simpler way to achieve exactly the same effect, and doesn't require any of that Axis business. Remember to start off with small numbers of stars (say, 50) unless you have a lot of memory (say, 8Mb or more).

Create a small, bright, object as your star. Use the Cone primitive to create a tiny pyramid object with four sides. Create a large sphere object. If you have lots of memory, up the number of points used to define the circle. Stick with the details for the time being.

Select the star object, and use Mold/Replicate. Now enter the name of the large sphere as a path (you won't be able to do this until you click in the 'Along path' box. You can now enter the number of stars, and play with the scaling and rotation values. Delete the original sphere. And that's it!



▲ Cattle in space! The famous Imagine cow, this time surrounded in a complicated starfield object which animates and pans properly.

Persp Mesh Den

This is the detail required to show the mesh in the perspective window. It doesn't alter how the blobs will actually appear.

Advanced features

Remember you can make objects follow paths and paths can be made to trace out very complicated shapes. Before you get all excited about the bizarrely-shaped blobs, bare in mind that blobs can only be based on CSG spheres and only non-CSG spheres can be made to follow paths. Bummer.

If you want to construct complicated shapes and blob-ify them, you'll have to place them all manually.

Note that you can stretch the distance between blobs, and with a little tinkering with the various settings, you can create some interesting shapes.

General materials

The key to successful rendering is to understand how your image rendering program deals with various materials. No matter the type of scene you are creating or how accurate the objects which appear in it, if the materials used looks false, the entire scene can be spoilt.

All rendering programs allow fine-tuning of the appearance of objects through several different attributes. These attributes control how the object effects the light around it. A glass object for example, will reflect some light (glass is reflective) but also let light pass through it (glass is transparent). Glass will also cause the light to be bent as it passes through it (glass has a refractive index). The glass itself may be coloured, and it may have a rough or a smooth surface.

By altering the value of all these parameters you can create exactly the type of glass you want: in fact, by playing with these parameters you can create a huge variety of materials. The key parameters are as follows:

Colour

The most obvious parameter. As you would expect, this defines the base colour of the object, nevertheless the colour of the object in the final render will depend on the colour of any lights illuminating the scene, as well as other object attributes.

Bright

Some programs allow objects to be 'bright', which means they are unaffected by any lighting in the scene. A bright object will not be shaded, and will always be visible even if there are no light sources. However, this doesn't necessarily mean they are light sources themselves. Bright objects are useful for adding detail: for example, a large space ship may have lots of windows on it's surface and these could be quickly made from small bright rectangles.

Light source

Sometimes an object can be turned into a light source, which means it can illuminate other objects. The colour of the object may affect the colour of the light it emits.

Transparency (filter)

A measure of how much light an object lets pass through it. Most objects will be 0% transparent, i.e. opaque. However, glass and water are 90% or more transparent. Most programs let you control transparency for each colour separately.

For example, a piece of blue glass will let only blue light though, and will block red and green light. Transparency is one setting which will greatly increase render times. It may require a full Ray Trace to be seen properly.

Fog (turbulence)

Not all transparent objects let light pass through as clearly as a glass window. Think of a thin piece of tissue paper, or even frosted glass. This setting allows you to define how the light is disrupted as it passes through the object. It's useful to make effects such as fog, or to make visible laser beams.

Phong

This is a shading characteristic (there is another less used technique called Gourad shading). An object such as a sphere will benefit from Phong shading, as it will smooth all the edges. However, a cube object won't as it needs to have crisply defined edges.

Reflectivity

A object can reflect light to varying degrees. A mirror will reflect close to 100% of the light which is incident upon it. The surface of a swimming pool, or a highly polished desk will also reflect light. The colour of the reflected light depends on the colour of the light incident, and the colour of the object. This is another attribute which greatly increases rendering times.

Specularity and hardness

Objects which are smooth and hard will have a small dot of reflected light on them: the size of the spot depends on the hardness of the object.

This is quite a subtle effect, but when you experiment with the settings you soon see the difference it can make. It's these values which enable you to tell the difference between a ping pong ball and a snooker ball.

Refractive index

As light passes through an object which is more dense than the air around it, it is bent. This is how lenses work and why the bottom of a swimming pool looks closer than it actually is.

Most rendering packages will attempt to copy this effect, by allowing the refractive index of a material to be altered. An index of one means that the light is not bent. It only takes slight variation to obtain realistic glass or water.

Roughness

Some programs allow the surface of an object to be rough and scatter light upon it. This effect is best left to textures though, especially if the object is too animated. ■

John Kennedy

Whatever next?

That's it for our first tutorial on this great package that you'll find on this month's cover disk. Next month we'll be looking at textures and brushmaps. Our generic 3D rendering series will also resume then.

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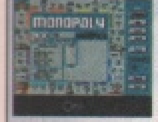
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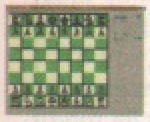
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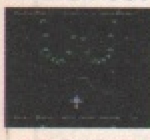
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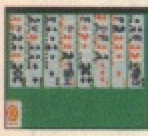
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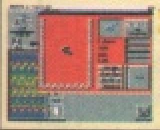
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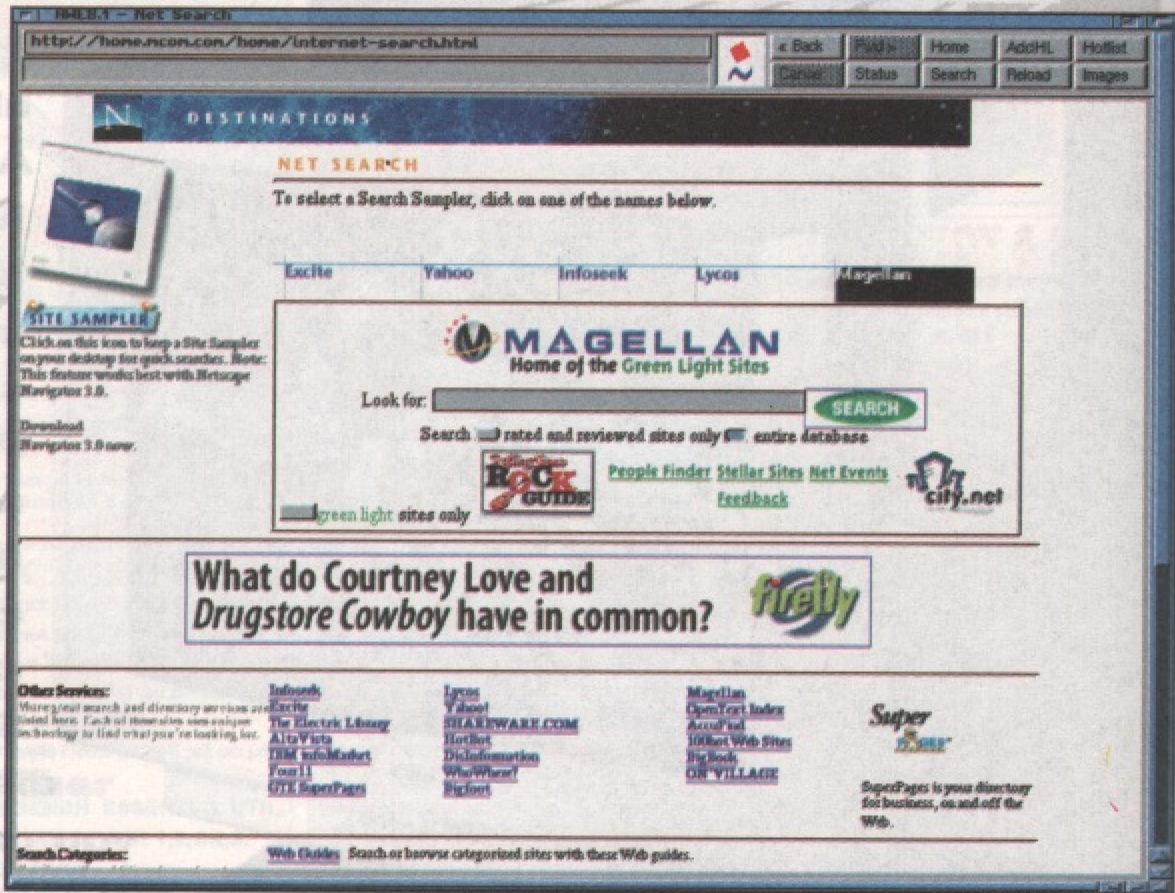
Wired World

Steaming on with some more advanced HTML techniques, we get started with the tricky subject of 'tables': how to create them and how to get them looking all neat and tidy.



Price lists, inventories, results and tables are tricky enough to get up and running on your Web site, let alone trying to get them looking good. It's especially hard when you are using HTML as it's difficult to decipher exactly which bit of text should go where. To make things easier and without resorting to the <PRE> statement for pre-formatted text, we are going to need some sort of text formatting and GUI elements to box out the text items to get it working and looking all right. However, this would be impossible to do even if we used lots of in-lined pictures. Few if any browsers could be coaxed into displaying the page as it was intended. Enter the HTML 3 standard of 'tables' to solve this problem. Though this is even more complex than Forms, thankfully the simple elements can be grasped quickly.

Currently, tables are not supported by all the browsers. IBrowse supports tables in both the demo and commercial versions whereas only the commercial version, not the demo, of AWeb 2.1 supports tables. Sadly, the freeware browsers, Voyager and AMosaic, do not support tables. The author of Voyager hints, though, that a forthcoming commercial version may do so in the future.



▲ Here's an example of invisible tables put to use to lay out a page with pictures and text exactly where desired.

Borderline

There are two main modes for tables. You can either have a GUI border around the 'elements' or not. To start off a table you must use the <TABLE> tag. So, depending on whether you want a GUI border or not you would use either the <TABLE> or <TABLE BORDER> tag. You can also align your table using the ALIGN attribute: ie <TABLE BORDER ALIGN=centre>, though IBrowse seems to ignore this.

To begin, let's try creating a simple table. Say we wanted to implement a table of leading Amiga browsers' features. Here's some example HTML code of how we'd do it; (→ means do not enter a return here.)

```
<TABLE WIDTH="50%" ALIGN=centre BORDER>
   <CAPTION>Comparison of Amiga →
browsers</CAPTION>
   <TR><TH><TH>IBrowse<TH>AWeb demo
      <TH>AWeb 2.1<TH>Voyager
<TR>Tables<TH>Yes<TH>No<TH>Yes<TH>No
   <TR>Frames<TH>Links<TH>No<TH> →
Links<TH>No
   <TR>MUI<TH>Yes<TH>No<TH>No<TH>Yes
   <TR>News<TH>No<TH>No<TH>No<TH>Yes
<TR>Progload<TH>Yes<TH>No<TH>No →
<TH>No
</TABLE>
```

Comparison of Amiga browsers				
	IBrowse	AWeb demo	AWeb 2.1	Voyager
Tables	Yes	No	Yes	No
Frames	Links	No	Links	No
MUI	Yes	No	No	Yes
News	No	No	No	Yes
Prog load	Yes	No	No	No

▲ Here's our example of a basic table. The HTML mumbo jumbo that you see on these pages actually makes this happen.

Right now it might all look like voodoo but in a moment all will become more clear. The first 'TABLE' tag has a new attribute called 'WIDTH' which specifies how much screen space, in percentage terms, the table will take up. For example, if the table was to be positioned to the left or right of an image it would then represent the fraction of the remaining screen space.

The ALIGN=centre command places the table in the centre of the screen and BORDER turns on the GUI draw functions. Unfortunately, IBrowse seems to ignore the ALIGN attribute inside the TABLE tag so the table will always be left justified.

Next, there's the optional <CAPTION> tag which simply places text at the top of the table, which will run along the width of the table until you place A </CAPTION> to terminate it.

Columns and rows

Now we come to the meat of the matter: the <TR> tags, which stand for Table Rows. When one is specified, the following statements apply to the next row of the table. Our first Row is a list of browsers.

In order to be able to read the table correctly we need leave the first 'cell' blank. To do this, we've put in an extra two <TH> tags,

the first one of which has no text and so will be empty.

So we move on through all of the cells on that row with the <TH> tag and a name of a browser. There's no limit to the cells we can have BUT remember there will be as many 'Columns' for the entire table as the largest amount of cells you specify on the longest row. We are using five columns here and moving on to the next row with the next <TR> tag, we set up the features of the browsers one by one.

After each feature, we specify a <TH> to move to the next column and an entry for the browsers in each row. For example, the second row is tables and it has IBrowse in the second column so we place Yes after the first <TH>. This formula continues to the end of the table where we finish it off with a </TABLE> terminator.

What may not be instantly apparent is how the table is actually drawn up. This is done quite easily: the browser examines the entire table and finds the number of columns. It then makes each column wide enough to house the longest text string in any row. This width will then be used for every row.

The browser will also most likely choose a font size which will best fit the boxes defined. One important thing to remember is that these kinds of tables can't be displayed until the entire page is downloaded (not the pictures) so to save time don't make your table too large.

Remove the border

Now to try something different. Take that HTML code and remove the BORDER statement from the <TABLE> tag at the start. Reload in your browser and voilà! We have no boxes around the cells at all but the text remains in exactly the same position. This is extremely useful when the need arises to justify text in a particular way. Small in-line images could also be included as bullet points or buttons etc. The text in the cells can also be made info HREF links.

We need limited cells to occupy a single column and row at a time. There's special COLSPAN and ROWSPAN attributes to do this as they can be enclosed inside the <TH> tag to expand a cell's size. Here we partition off 'IBrowse' and 'AWeb' across two cells and include 'Commercial' and 'Demo' underneath. This replaces the first <TR> line in the previous example with these two;

```
<TR><TH>ROWSPAN=2><THCOLSPAN=2>→
IBrowse <THCOLSPAN=2>AWeb<TH>Voyager
<TR><TH>Commercial<TH>Demo<TH>→
Commercial<TH>Shareware<TH>1.0
```

Comparison of Amiga browsers

	IBrowse		AWeb		Voyager
	Commercial	Demo	Commercial	Shareware	1.0
Tables	Yes	Yes	No	Yes	No
Frames	Links	Links	No	Links	No
MUI	Yes	Yes	No	No	Yes
News	No	No	No	No	Yes
Prog load	Yes	Yes	No	No	No

▲ To create some sub-categories all we have to do is add ROWSPAN and voilà there they are.

Note that we've expanded the columns to six now and so an extra <TH> needs to be added onto the following <TR> tags. The trick here is the <THROWSPAN=2> which has made the top left blank cell two rows deep. It's assumed to be there on the next <TR> line so we don't add a <TH> for it. Also because the IBrowse and AWeb headings have two cells underneath, we must also make them two columns wide and for this we use <TH COLSPAN=2>. We do the same for Voyager.

Assumed cell

The second line now has an assumed cell (which could have contained text on two lines if there was a
) and then has the next headings defined across as normal only this time they fit underneath the above headings which are two columns wide. Once defined, we can change the look of the table by using a special option to the BORDER attribute.

Inside the TABLE tag, BORDER can be made equal to a width of the border. Normally it's a simple line but if we were to do <TABLE BORDER=5> suddenly a nice bevelled edge appears around the table five pixels wide. It certainly draws attention to the table which is great for price lists. The following is an example:

```
<TABLE WIDTH="50%" ALIGN=centre →
BORDER=5>
```

Comparison of Amiga browsers

	IBrowse		AWeb		Voyager
	Commercial	Demo	Commercial	Shareware	1.0
Tables	Yes	Yes	No	Yes	No
Frames	Links	Links	No	Links	No
MUI	Yes	Yes	No	No	Yes
News	No	No	No	No	Yes
Prog load	Yes	Yes	No	No	No

▲ Here's our finished table; large heading, left most item texts justified centre, total in bold and a nice bevelled edge.

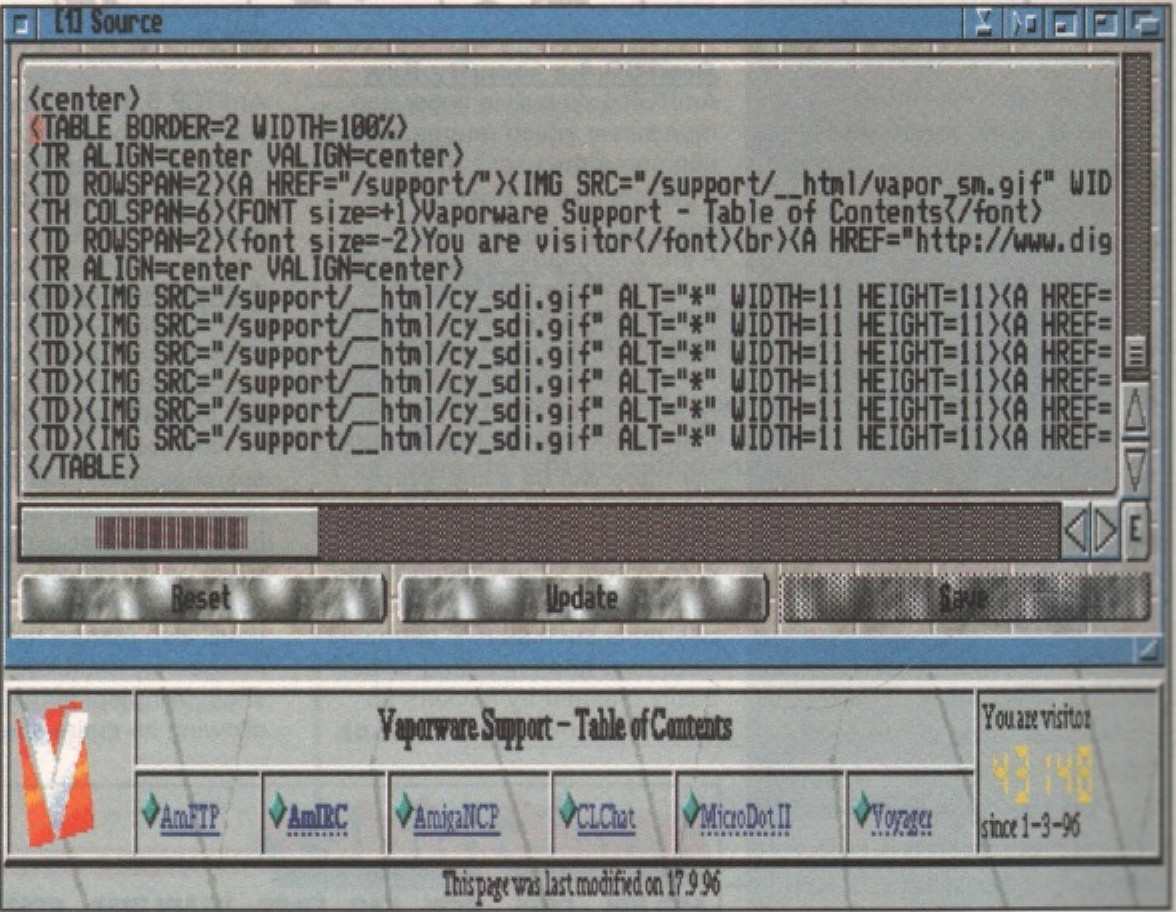
```
<CAPTION><H2>Price list for →
Browsers plus Miami</H2></CAPTION>
<TR><TH><TH>IBrowse<TH> → AWeb demo
<TH>AWeb 2.1<TH>Voyager
<TR ALIGN=right>Standard<TH> →
£29.95<TH>Free<TH>£39.95<TH>Free
<TR ALIGN=right>With MUI<TH> →
+£15.00<TH>Not need<TH>Not →
need<TH>+£15.00
<TR ALIGN=right>With Miami<TH> →
+£25.00<TH>+£25.00<TH>+£25.00 →
<TH>+£25.00
<TR ALIGN=right><B>Total →
</H3></B><TH>£69.95<TH>£25.00 →
<TH>£64.95<TH>£25.00
</TABLE>
```

We've thrown in a few tricks here, firstly our BORDER=5 attribute to TABLE which adds something extra to our table. Then notice the addition of a <H2> heading size inside <CAPTION> where we've made a larger table heading. Next we've right justified all of the far left cells with an ALIGN=right attribute inside the first <TR> tags on each row and finally, the Total is made bold. We can use style tags but not headings or font sizes inside tables. ■

Mat Bettinson

Whatever next?

Next month, we'll look at creating some dynamic and attractive pages by combining tables (with no frames) with our previous techniques to achieve a special lay-out. Drop me an Email to mat@mats.net if there's some web secrets in particular you'd like revealed as it's time to put these techniques into practice. Until next time.



▲ A good example of a small and attractive table, this time used to frame the links to other pages. Note the included pictures and the nice box for the page counter.*



Net God speaks

What's going to be in your Christmas stocking this year? I won't put in print what I'd like in mine. But while we all wait in eager anticipation spare a little thought for shareware authors. I'm saying this because I've noticed a disturbing demo-hopping trend amongst shareware users lately. For example, one guy recently commented on the IRC, "I only moved to AWeb because my IBrowse demo timed out." This is not on. Need we remind him that there wouldn't be the excellent development of Internet applications that we have today if this attitude was the common one? We all have some essential shareware lying at the heart of our system so why not scribble a cheque to the author(s) and give them a little something for Christmas? They deserve a reward for the work they've done in the past and hopefully this will encourage them to continue any of their planned new developments for the future. Ultimately what I am saying is to wish them a Merry Christmas as I do to you.

Surf's up!

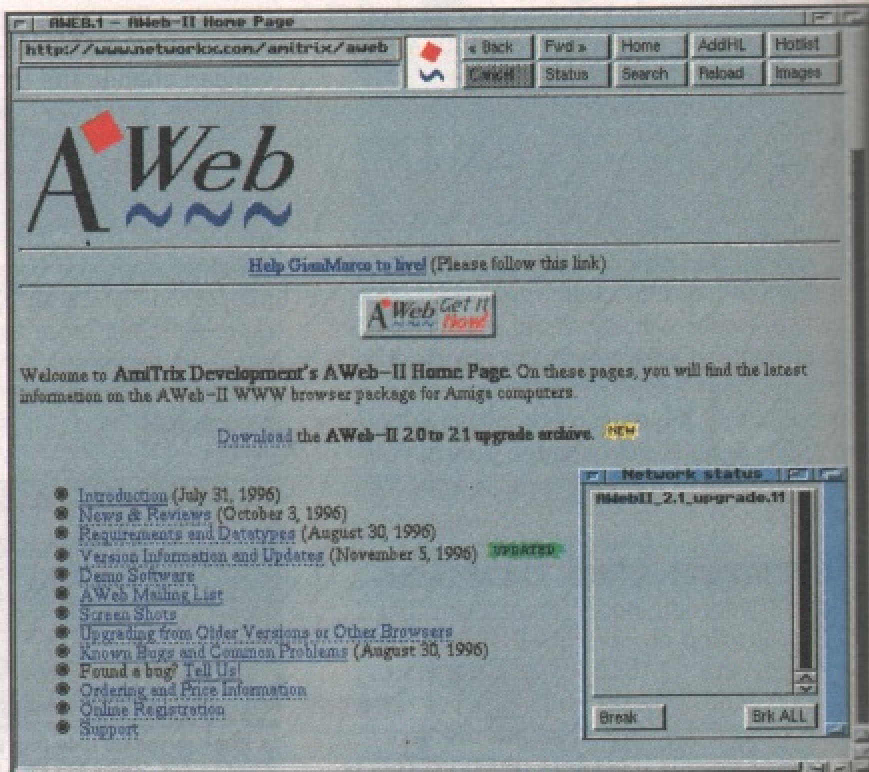
CU Amiga Magazine steps in to solve a potential security risk, ARCnet is on the IRC and version 2.1 of AWeb is here.

ARCnet moves to IRC

The only Amiga-run IRC network, ARCnet, is now accessible via the IRC.

ARC has always run on a proprietary system written by prolific Amiga Internet programmer, Oliver Wagner. However, standard IRC clients found it difficult to use when they tried to connect via a built-in hack. To solve this problem Mr Wagner has ported the Undernet IRC server to run on the Amiga so that ARCnet can connect to an existing network of Undernet servers. As before, the bulk of the Amiga users hang out in channel #Main but this time it may be accessed via irc.mentasm.com port 6667.

ARCnet is growing increasingly popular now so why not pop this site into your IRC client and drop in for yourself but don't be surprised if everyone has channel operator's status.



▲ Version 2.1 of AWeb is here. Anyone who already has version 2.0 will receive this latest update free of charge.

AmiTCP 4.x security flaw

AmiTCP 4.x's built-in finger daemon server which returns information about the user's system has a serious flaw in it which could prove to be a major security risk. A knowledgeable hacker could easily run commands on your machine remotely via an unfortunate 'back door' in the server .

Thankfully, it's easily remedied by editing the file Amitcp:db/inetd.conf. In this configuration file there will be a line which starts with 'finger'. Remove this line and resave the text file and your system is now secure. Be warned though, other popular daemons such as FTP daemons have also been revealed to be easily crashed by hackers so run at your own peril. Users of AmiTCP 3.0 and Miami need not worry about finger but the same warning applies to third party daemons adding to their inetd configuration.

Amiga web spider announced

The Amiga's first web site search engine, amiCrawler, will be replaced this month by amiSpider, the Amiga's first search spider.

New features include faster searches which will include displaying more relevant matches first, indexing of every word of every page, allowing searches such as 'browser comparison' etc. It will also feature the largest Amiga-only database of Amiga sites, using spider capabilities allowing an entire site to be indexed just by providing the home URL. AmiSpider will also determine when a link is no longer valid and automatically remove it from the database. The site can be visited at http://www.amicrawler.com/spider/.



▲ AmiSpider, the Amiga's first search spider dances in to take amiCrawler's place. AmiCrawler was the Amiga's first web site search engine.

AWEb-II v2.1 Update!

AmiTrix Development has announced the release of version 2.1 of the popular WWW browser 'AWeb' by Yvon Rozijn. The update, which is free to customers that have purchased the v2.0 package, is now available from their web page at http://www.networkx.com/amitrix.

AmiTrix would also like to apologise for the delay in making the update available, but illness and some last minute changes made it un-avoidable.

There will be v2.1 AWeb-II packages ready for shipping to new customers by the time you read this. AWeb-II v2.1 costs £39.95 and is available from Blittersoft on 01901 261466. ■



The Ultimate Amiga Trainspotter Quiz

So you think you know about the Amiga? Prove it!

Welcome to The Ultimate Amiga Trainspotter Quiz! In a bid to find our most Amiga-wise reader, we've compiled this competition quiz and amassed a tempting goodie bag of Amiga rarities and collector's items as a unique prize for the winner. This cornucopia will include: a box of Commodore matches, an Amiga Technologies mug, a framed 'Cover of the Month' from CU Amiga Magazine December 1994, a complete set of CU Amiga CUCD-ROMs, an issue of CU Amiga Magazine signed by the team, some obscure old games, an original 'iris' proof of the latest CU Amiga Magazine cover, lots of CU Amiga Magazine mini-books and some good stuff too that's bound to amaze and amuse your friends. All aboard!

Games

1. Which classic Amiga game from Cinemaware features battles between the Saxons and Normans?

2. Name the main programmer responsible for Kick Off, Kick Off 2 and Goal!

3. Which martial arts game featured a secret hot key which caused the combatants pants to fall down?

4. What form of light refreshment is being sold by a bloke in the audience of Speedball 2?

5. Which cute Amiga platform game shares its name with a food consisting of fried potato, onion and cabbage?

History

6. What was unusual about the inside of the original Amiga 1000 casing?

7. In what year was the first Amiga put on sale to the public?

8. Which major software developer supplied the original Amiga BASIC for 1.3 Amigas?

9. Commodore took over the development and manufacturing of the A1000 from which company?

10. Name the man widely regarded as the "Father of the Amiga" due to his development input.

Hardware

11. List all of the custom chips in the A1200 with female names.

12. What is the clock speed of Fat Agnus on an A500?

13. Which B52s song titles are written on the motherboards of the A500 and A1200?

14. How large (in Kilobytes) is the Kickstart of a CD32?

15. In which chip is the RS232 Serial UART housed?

Systems

16. If when listing a file you saw the flags '--p-rw-d' what would this tell you about that particular file?

17. What type of multitasking does the Amiga use?

18. What is the maximum length of a Fast Filing System filename?

19. The 'Right Amiga' key of certain A500s is marked with a different symbol. What is this symbol?

20. Name the man behind the original Rexx language upon which ARexx is based.

Miscellaneous

21. Name the 3D rendered CD32 game inspired by the film Fantastic Voyage.

22. What do the letters AGA stand for?

23. How many grooves are there along the back edge of an A500?

24. How many colours can be displayed simultaneously on a HAM-8 screen?

25. What does the 'CU' in CU Amiga Magazine stand for?

Your entry form

To enter the competition, use this page (or a photocopy) to answer as many of the questions as you can and fill in your personal details. Entries can only be accepted in this form. The entrant with the most correct answers will be announced as the winner. In the case of a draw, one of the tied entrants will be pulled at random from a hat.

In order to give overseas readers a chance, the closing date for entries is 30th January 1997. The winner will be announced in the April 1997 issue of CU Amiga. Multiple entries will not be accepted. The editor's decision is final.

Name ____________________

Address ____________________

Postcode ____________________

Telephone number ____________________

Digital Compact Cassette

Digital recording for £249 sounds too good to be true. Could DCC be the ideal mastering format for skint musicians?



■ **Above: the portable DCC 134 and the hi-fi style DCC 951 unit.**

You've probably heard about DCC before. It was launched a few years ago in an attempt to replace the old analogue cassette standard, bringing it up to date with clean digital technology. For one reason or another it still hasn't made a dent in the home, car or portable hi-fi markets, but neither has it gone away. Around the same time, Sony tried a similar thing with MiniDisc, a recordable magneto-optical format that looks like a miniaturised cross between a CD and floppy disk. MiniDisc failed on its first attempt too, but now both formats are attempting to make a comeback. While MiniDisc four-track Portastudio-type recorders are now appearing for musicians with small studios and big budgets (prices start at around £900), DCC remains by far the cheapest entrance into digital mastering.

Price is the key element in the favour of DCC as a digital mastering format. While the cost of industry standard DAT (Digital Audio Tape) recorders remains artificially inflated to at least £500 for the cheapest unit, with an asking price of £249 DCC has a niche whether or not it eventually conquers the hi-fi market. This article looks at DCC as a potential digital mastering solution for musicians on the tightest of budgets.

The basics

First of all then, let's take a look at DCC's basic principles and how it operates. It works by recording a digital signal onto magnetic tape. The incoming sound is sampled as a 44.1kHz 18-bit waveform and then passed through a special kind of data compression in order to fit a relatively large amount of data onto a small amount of tape. This is a 'lossy' compression method which removes parts of the sound that it thinks you won't notice. It's very efficient and so it only requires a fairly simple tape mechanism (excluding the compression components), unlike DAT which uses a mechanism that's very much like a miniature VCR.

DCC was designed to wean people off analogue cassette tape and has many similarities to the old format. Its cassettes are the same size as analogue tapes but have their own unique subtly different design which has a retractable metal cover that protects the tape, rather like that on a floppy disk. DCC decks can also play analogue and DCC cassettes but recordings can only be made on DCC tapes. DCC tapes can also contain data for track markers and track titles to be displayed during playback. The documentation also says pre-recorded tapes can contain whole lyrics, although we didn't come across any.

Is it an option?

The major factor here is sound quality. Does it match up to DAT and is it good enough for professional mastering? The short answer is yes for both, not that everyone will agree. Technically, the quality of recordings is not going to be as pure as DAT because of the compression method that discards certain parts of the sound.

However, you would need very good ears and an absolutely crystal clear production system to tell the difference between a recording made on the two systems. Looking at it realistically, DCC is more than capable of doing justice to your musical creations. In most musician's setups there are bound to be other areas of production that introduce far more significant noise or colouration of the final sound (such as a noisy mixer, fuzzy effects, bad EQ and so on).

Compensating for the compression, the sound is recorded at 18-bit resolution, which in effect gives you more headroom when making recordings from analogue sources (compared to recording at the 16-bit CD standard). Due to a bit of a mess up with the operating system design this is particularly important, as setting optimum record levels is much harder than it should be, as we'll discuss shortly. But assuming you've got that covered, DCC makes apparently

DCC models: what's on offer



There are currently five main DCC models available from Philips. They all offer a fairly flexible array of options. In addition to those listed here, there's also a car stereo model available. The packages which are shown below in the table are based on prices and deals offered by DCC distributor SRTL (tel: 01243 379 834). A number of free DCC tapes are bundled with each of the models. SRTL also do a few bundles made up of various combinations of two different DCC decks.

Model	Description	Free tapes	Price
DCC730	Hi-fi separate style record and playback unit	Five	£249
DCC951	Identical to DCC730 except for restyled front panel	Ten	£279
DCC170	Portable Walkman-style record and playback unit	Five	£249
DCC134	Portable Walkman-style playback only unit	Three	£150
FW68	Mini hi-fi system with speakers, CD, tuner and additional analogue tape deck	Ten	£399

perfect copies. If you use either of the digital inputs (optical or coaxial) then this is all done automatically.

So it's fine as far as sound quality goes, but what if you're the only person you know who has a DCC machine?

At the moment it wouldn't be much use sending out demos to record companies on DCC for the simple fact that hardly any will have a DCC machine to play them on.

When it comes to getting your music put onto CD or vinyl you'll also have the problem that the cutting house are unlikely to have a DCC machine. In this case you would have to take your own machine, which may or may not be practical depending on which DCC model you have and how flexible the cutting house is. The portable recorder and playback units would obviously be more suitable for this.

Work it

DCC tapes use an A and B side format with an auto-reverse mechanism to switch sides (like a VCR there's only one way in which to insert the tape). Track markers can be inserted as and when you record each piece of music or you can put them in after you've made your recording. So for example, if you were recording a continuous live mix tape from two record decks in which one record fades into the next, you could add markers on the tape once the mix was finished. Notes or track titles can also be added as and when required.

Off the record

Setting the recording level should be a very simple affair with a standard volume bar display as used on most analogue tape decks and DATs. However, a rather confusing dual numeric display is used instead. When set in record/pause mode with an incoming signal, the first number displayed is the continuous peak level, while the second number is the amount of headroom you have left before the sound will clip due to overloading. Both measurements are given in 'dB'. While this must have sounded very logical to the boffins who designed the system, most people will find it very confusing. The dB scale can be tricky to understand and the manual makes little attempt to demystify it. This will lead many to simply use the 'Over' indicator which appears whenever the incoming signal is too loud.

Most other operations are fairly simple and straight forward, although the system does have a few quirks. Now and again (for whatever reason) the mechanism has a tendency to thrash around with a newly inserted tape, as if it's confused or maybe trying to get a grip on the information on the tape.

One discovery during our tests was that it's quite possible to buy 'bad' tapes that for one reason or another will not work on any DCC recorder. We had a brand new BASF 90 minute DCC cassette that refused to work on four different decks. While a poor quality blank tape will normally still work on an analogue system, digital systems like things more cut and dried: either it works or it doesn't.

Which DCC?

Philips have made a fair attempt at producing a DCC machine to suit everyone. The DCC 730 is fine for anyone with a hi-fi separates system or a home studio set-up. Technically identical is the DCC 951, which offers a new style front panel (and some extra blank tapes) for £30 more. If you want portability then there's the DCC 170, a robust metal-cased Walkman-type unit that offers the same features as the 730.

The playback-only DCC 134 is another portable option, but with the lack of commercial pre-recorded tapes this is only worth considering as a complement to a non-portable DCC recorder. The FW 68 is a complete mini hi-fi system which comes complete with speakers, and integral amplifier, tuner, CD player and a dual tape deck in which one is DCC and the other is analogue.

The verdict

DCC may well become the home recording format of the future, but don't bank on it. It's certainly not happening as a format for pre-recorded music. Getting hold of blank tapes could be a problem. You won't find them in many high street shops although most good hi-fi and music shops will be able to order them for you. However, they are available from the hi-fi chain store Richer Sounds, which has outlets all over the UK.

Bearing these shortfalls in mind, it's really the £249 DCC730 or DCC 170 which look the most attractive options.

DAT is the ideal choice for anyone that can afford it, but if you don't mind making a few compromises, DCC is well worth looking into at half the price. It has very little 'pose factor' beyond the realms of your hi-fi system and you might even have to put up with a bit of ridicule from ignorant members of the recording industry. If that bothers you then forget it. However, it's recommended as a stepping stone to DAT. If it's the difference between getting your first record released or giving up and losing momentum due to lack of funds then it's got to be worth considering. Even if you get a DAT soon after with your first royalty or advance cheque, the DCC can still be put to good use in your hi-fi stack. ■

Tony Horgan



▲ The DCC730 at just £249: is it the answer to the penniless musician's prayers?

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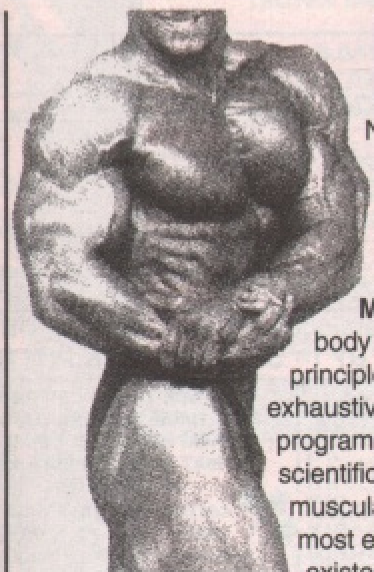


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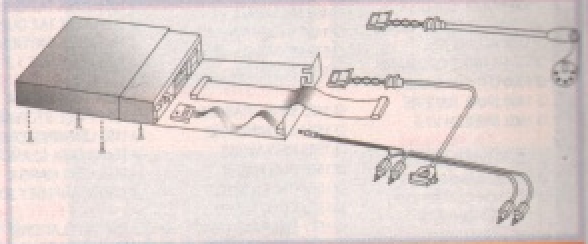
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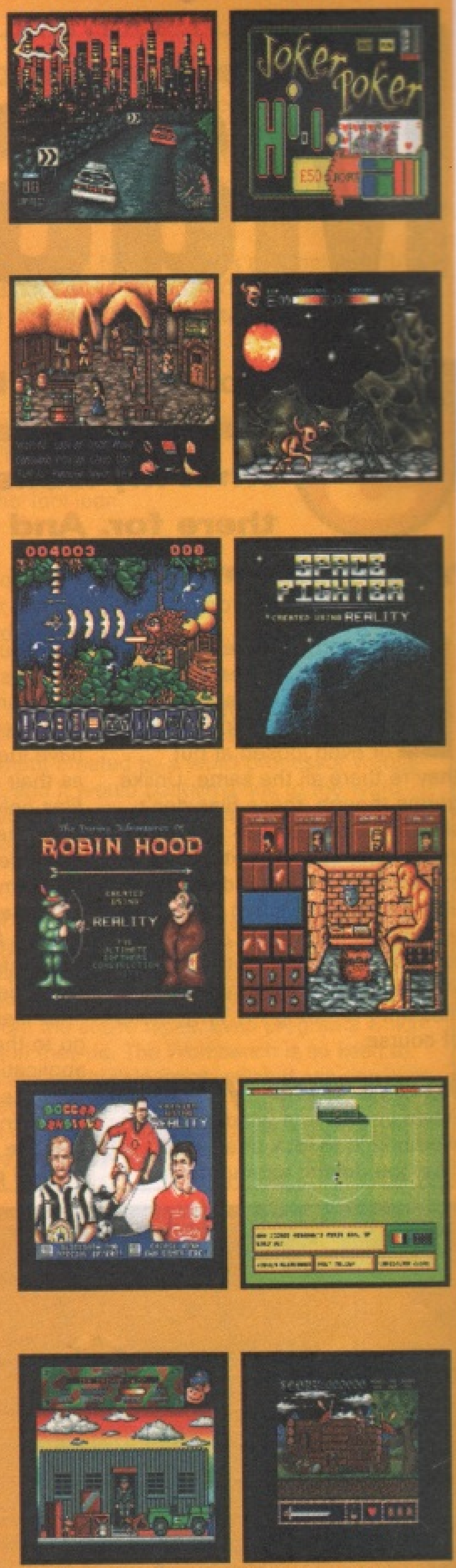
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This will provide you with a phone helpline, a pen-pal list allowing you to contact and work with the already -MASSIVE REALITY userbase from around the globe! You will also have access to a HUGE range of software that has been created using the REALITY system and 1000's of graphic images, sound effects and music tracks which you can use with your own software! We are willing to publish any software that you create using REALITY or if you wish you can have other companies publish your work! The REALITY user club can supply you with ALL the graphics, music, sound effects and ideas that you need to create superb software with this system. ALL the hard work has been done for you!

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Screenshots of games created with REALITY



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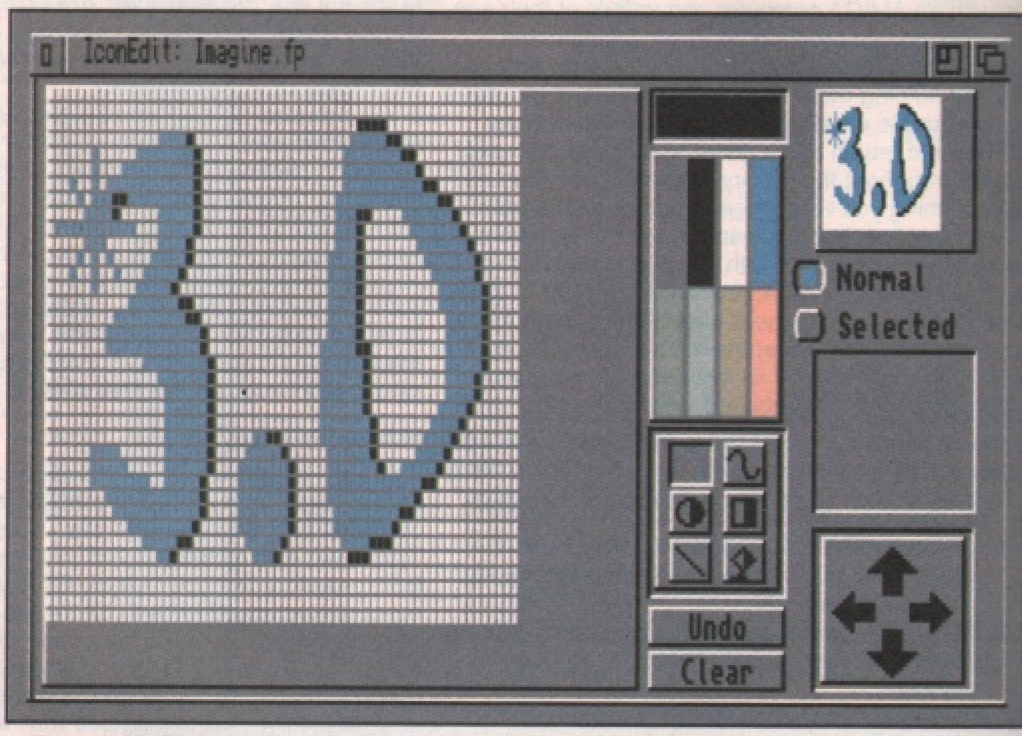
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Masterclass

PART 5

Icon see clearly now that I understand what my icons are there for. And soon you will know all about it too.



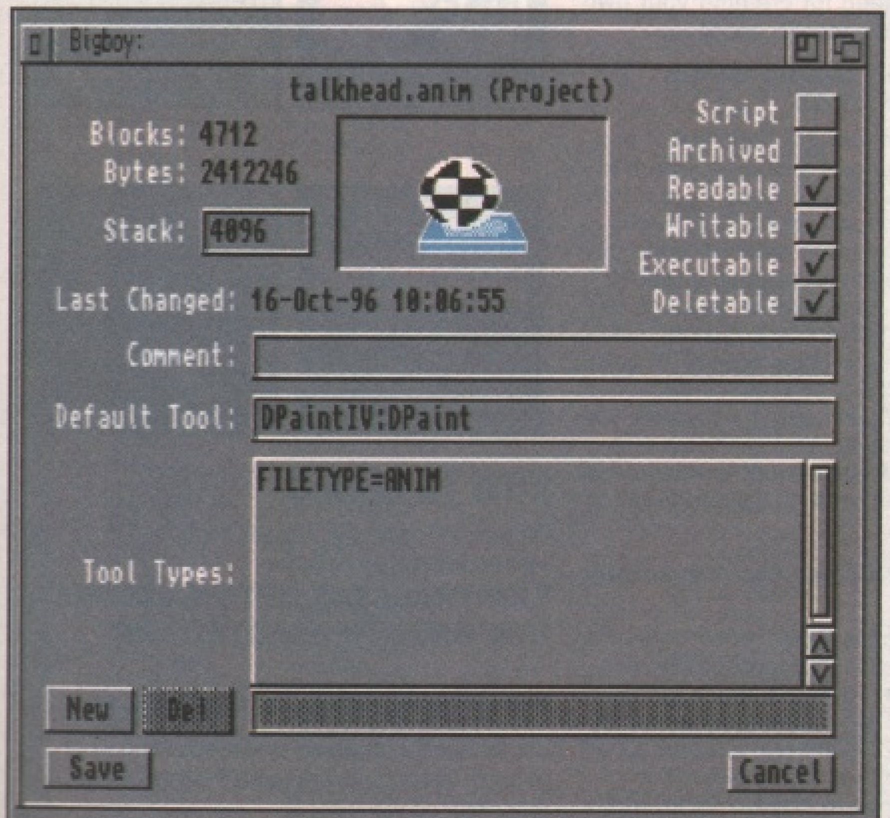
▲ How to identify those icons: just use IconEdit and you soon find out. You can also chop and change icons here if you wish.

Like germs, there are hundreds of files scattered all over your system which you might never have seen or even looked at but they're there all the same. Unlike, germs though, these files don't spread nasty diseases and make you feel ill. They are vital to your system and contain indispensable information about your programs and data. They also help to define the presentation of your Workbench. So what types of files am I referring to? Why, icons of course.

Icon see you

When you open a window on the Workbench to look at a list of files, the default setting means that you will see only the files with icons. The icons are actually files themselves. They have identical names as their corresponding files only with '.info' appended. For example, if you have a program called 'Plop' then there will also be an icon file called 'Plop.info'.

To view these icon .info files you need to go to the Shell or some other application program. This is because the Workbench tries to maintain the illusion that the .info files are an integral part of the original programs and data by making sure it never displays them. Even if you use the Workbench menu option Window/Show/All Files ... you won't see the .info files. This option merely displays the files which don't have icons using default .info files. If a file doesn't have an icon, that means it doesn't have a corresponding .info file. For example, there may be a program called 'Plop' but there is no file 'Plop.info'. Neither will Workbench display the .info files when you use the menu Window/View by/Name. It still hides the .info files so you don't get confused.



▲ You can also find out the name of the program that created a project icon using WB's icon information option.

IconEdit

So how do you tell which Icon is which? Easy, just use the IconEdit program which is part of the Workbench installation. You'll find it in the Workbench/Tools drawer if you have installed all your floppies to hard drive.

When you run this program, it opens a Window on the desktop. Now you can drag and drop any icon from the screen into the Window. When you do, it opens the .info file and displays the icon in a magnified form, just in case you want to redesign it. However, if you use the menu option 'Type', you'll see a list of the possible icon types with a tick next to the relevant type.

Using IconEdit you can adjust the appearance of icons or even create some from scratch. You are free to use the drawing and text tools to design and save your own icons: the only thing you really need to remember is to get the icon type right from the Type menu before you save them. You can have great fun designing icons which flip between two different images: drawers can open, disks can spin and comic characters can animate. Modern technology is a wonderful thing!

Downsizing

By the way, the version of IconEdit which comes with Workbench 3 has a little bug in that it sometimes saves out an icon which is way too large: for some reason a huge rectangle is saved as well as the icon pattern. To get around this, I use the IconEdit which came with Workbench 2, as this version is a bit more reliable. If you like designing icons, then find the freely distributable utility named

'Iconian'. This program includes a lot of very useful drawing tools.

If you are designing icons and are having programs with the paint tools and colours, try using an art package instead.

IconEdit can import IFF brushes to use as icons, so there is nothing to stop you designing your patterns in Deluxe Paint or Personal Paint and then loading them into IconEdit at the last moment.

Make sure you get the palette right. The easiest thing to do is to load or grab a snapshot of the Workbench screen, as this will automatically set the number of colours and the palette.

Undercover

So, how does a Project icon know the name of the Tool program which created it? Simple, it's stored into the .info file itself. You can examine the contents of the .info files using the Workbench icon menu option Information, or use the hotkey Right Amiga/I. This will pop up a display like the screenshot above, where you can see that the Project icon includes a link to the program which created it.

You can edit this information, to make the icon point to different programs. This is a handy way of getting around problems with cover disk programs.

For example, sometimes the authors of the programs assume that their hard drive is the same as everybody else's so they might include the default tool:

```
C:/multiview
```

However, no-one else has the tool 'multiview' in their C directory. If this is the case, you can easily edit the .info file yourself and ensure that the default tool is set up properly. In this way, you can also get text files to point to your word processor and your paint program.

Default icons

There is a way to alter the default icons which Workbench sometimes uses. You can find these .info files in the ENV:sys drawer in the RAM disk (for temporary experiments) or in ENVARC:sys drawer on the boot disk (hard or floppy) for permanent changes. You can load these files into IconEdit, alter and save them.

Now when the Amiga needs to display a default icon, it will make use of your new and improved set. This is how utilities like Magic Workbench alter even the icons which haven't been displayed yet.

Only files?

All this doesn't change the fact that .info files are still only files, and nothing more. The Workbench may treat them differently, but at the Shell level they are merely files with no special abilities or features. As a result, you can delete, copy or rename the .info files independently of their owners.

There is nothing to stop you renaming the 'Plop.info' file to be 'SuperPlop.info'. This is different from the Workbench rename feature: the Workbench rename will automatically rename both the 'Plop' file and the 'Plop.info' file. If you rename the .info file by hand, two things will happen:

Firstly, there will be a new icon called 'Superplop' displayed on screen, and when it's clicked on nothing will happen.

Secondly, unless you have the Workbench option Window/Show/All Files switched on, you won't be able to see the program Plop anymore from the Workbench. You have effectively separated the program from the icon.

That's it for Masterclass this month. If there any topics that you would like covered in this tutorial or if you have any unanswered questions please don't hesitate to write in to me care of Q&A at the usual address. ■

John Kennedy

What's the point of these files?

Why the need for icons at all? The Amiga uses icons to help you keep tracks of files and to help itself keep order. There are five different types of icons, and these reflect the different types of data which can be stored. Icons can be one of the following:

Disk



This icon class is reserved for disk drives and includes RAM drives, floppy and hard disks and CD-ROM drives too. Double click on a Disk icon and a directory listing window will appear.

Tool



This icon is typically used by any program to create or modify data. For example, a word processor program would have a Tool icon. So to load and execute the program you need to double click on the Tool icon.

Drawer



A drawer indicates a directory. When you double click on the drawer icon it opens and another windows is then displayed.

Project

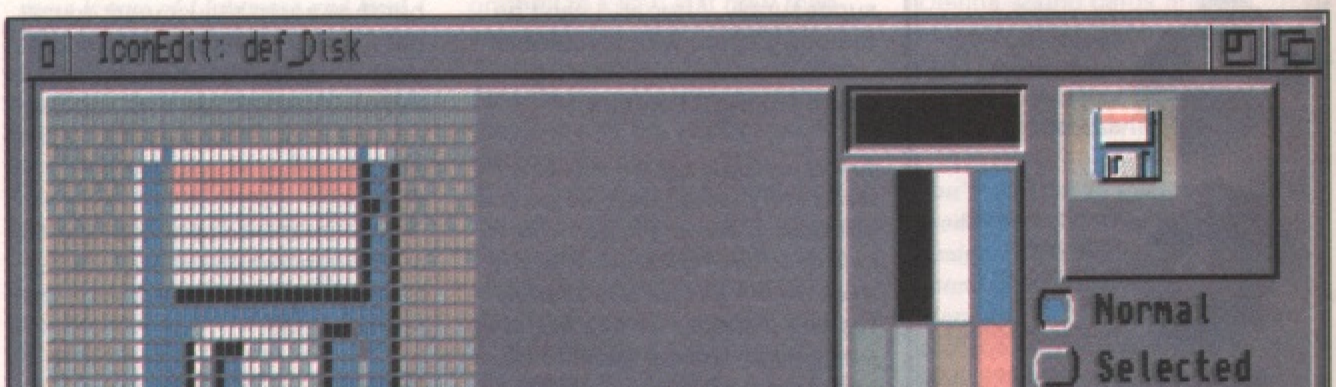


A project is a file which contains data. It's special, because it also contains a link to the Tool that created it. For example, a document created by a word processor would be a Project icon, and it would contain a link to the word processor itself. If you double click on the Project icon, it attempts to re-load the Tool which created it.

Garbage



This is the type of icon used by a Trashcan Icon where files can be temporarily stored before deletion. When you double click on it, it displays the files it contains, just in case you need to bring them back from the brink. All programs which have icons will have one from the above types. Even programs which don't have icons, can pretend they do. The Workbench is so keen to keep this visual, that it has a set of built-in icons which it can use in an emergency. So when you select the Workbench menu option "Show/All Files" is uses these default icons. It's possible to change the design of these icons if you wish: we'll see how later.



▲ You can easily change the default icons by loading them into IconEdit and altering them there.

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Got a problem with your Amiga that you just can't solve? Don't worry we're here to help. Send in all your Amiga-related problems to Q&A, CU Amiga Magazine, 30-32 Farringdon Lane, London EC1R 3AU.



Yes, the young man at the back with the brown cords and the kipper tie. What was your question?



Oh, I see we're recycling those old Question Time 'funny' intros again where we pretent to be Robin Day or David Dimbleby.

DIY PSU

I recently installed a Viper II-33mhz card with 4Mb of RAM in my A1200. It already had a 60Mb hard drive in it and I am finding it crashes in an assortment of manners. The most popular is the sudden inexplicable Guru, closely followed by the blank screen after a soft reset. I tend to suspect this is due to an inadequate power supply but I was told by both Power Computing and Datel Direct that both the Goliath and the MikroniK power supplies are no longer produced.

If you agree with my diagnosis please describe how to build a super-supply. After all, I can't be the only person with this problem.

David Dolliver, Pershire

You're certainly not the only one. It seems every second letter we get is on this subject, and as you say, with nobody selling replacements you're stuck. To this end we'll be showing you how to make your own beefed up power supply using a standard PC unit. Keep it here for full details.

Oh dear

For two years now I have been a fond user of my Amiga 500. Being slightly restricted in memory I decided to take a step in the upgrade direction, so I went to my local second hand electrical shop to see what was on offer. The salesman was very helpful. He told me he had an Amiga that was just like a PC. I got very excited when he said he would swap my A500 for his Amiga PC if I gave him £50. I am currently unemployed so £50 was like £500 but I thought it was worth it.

When I got my Amiga home I quickly set it up. I read the back of the machine and I realised the voltage was 110 volts. I was gutted, but glad I didn't switch it on. I then phoned the shop and the salesman said that they do not do refunds. I felt like crying. I then started looking around for a transformer and was shocked to find out that Tandy's was the cheapest at £49. It took me months to save the money but I did and got the power supply plugged in.

Now I am faced with yet another problem: Please Run Kickstart. I have phoned several companies but they seem to just want to sell me another computer. I asked them what sort of computer I had but they couldn't tell me. You are my last hope. Please do not tell me it is going to cost another £50.

PS. On the underside of the lid are a large number of signatures (see enclosed 'brass rubbing' type reproduction).

Peter Skeoch, London

Do you want the good news or the bad news first? OK, let's get the bad news over with: you've got an Amiga 1000, a rather useless machine in these times. The good news: it's quite a museum piece!

The Please Run Kickstart prompt is the computer asking for its basic operating system to be loaded from disk, the very early version of what all the other Amigas have permanently on ROM chips. It's going to cost more than £50 to get this to do much of any use. If you are determined to get this machine up and running, the first thing you'll need is the Kickstart disk. No-one is officially supplying them now. Your best bet is to try a few PD distributors who may be able to sort you out for a few quid. You'll also need Workbench 1.2 while you're at it, this is the part of the operating system that sits on top of the Kickstart.

Once you've got that, you can see how much RAM you have. It may only have 256K. So then you'll need some extra memory, and that's just the start of it. Frankly you're probably better off trying to sell it to a particularly enthusiastic Amiga user group, or maybe the science museum. It's worth a try!

Vocal sampling

I have an Amiga running OctaMED SoundStudio and am wondering how I could record/sample vocals avoiding background hiss. Is Delfina capable of doing this and is an amplifier necessary or can a microphone be directly connected to it? Please report on various techniques.

K Ekqvist, Finland

We presume you have already tried sampling vocals from a microphone straight into SoundStudio, but you are getting hiss on your samples. You don't say exactly how you have done this though. Let's assume you have sampled to an 8 bit cartridge from a hi-fi with a microphone connected to the hi-fi's microphone input. In this case the hiss is probably being produced by the hi-fi, so the best way is to sample direct to the Amiga from the microphone.

Yes, Delfina is capable of doing this. In fact it is very well suited to

this, because you can also add reverb, echo and chorus effects to the sample as it is recorded. Although at present you cannot sample straight into SoundStudio with the Delfina card, you can use Delfina to make a sample file which can then be loaded into SoundStudio. Things to bear in mind when recording this way are feedback (keep the volume of your speakers low or off) and the quality of the microphone. Cheap microphones can sound very bad. Most of the better ones have balanced XLR connections however, while Delfina has a jack socket for its microphone input, so you will need to find a compromise there.

Missing RAM

I have just upgraded to an 8Mb RAM board with FPU and followed the usual advice about earthing myself to some convenient point. I then put everything back in place and checked to see if the configuration showed any extra RAM, but nothing appears.

Does the Amiga know that I have put in the extra RAM, or does it need to be told? I have an A1200 with external floppy drive, a standard power source, Microvitec monitor, Panasonic printer and a 280Mb hard drive.

Alan Rushton, Tenerife

It sounds like the board is faulty or not installed correctly. The installation is a purely physical matter, there's no software required, so check that the connections on the Amiga and the card are clean and making contact. Expansions in the trapdoor should autoconfigure, so no, you don't have to tell the machine it's there.

Convert me

I was recently challenged by a PC owner to convert a multi-scrolling platform game from the PC to the Amiga. After taking a look at the game I decided that it was possible. Since he wrote the game in C it was easy enough to port it across but a lot of work was needed to get it working on the Amiga, especially with the scrolling and graphics code and to get it to fit into 2Mb instead of 8Mb. Once I got the scroll and player routines working with test graphics I started porting the games graphics and sound. This is where the problems begin.

1. Do you know of an easy to use program (preferably PD) which can convert pictures to and from PC? I know Image FX and Art Department can do this but I can't get hold of them.
2. Is it possible to transfer rendered objects from the PC to use with Imagine or Lightwave?
3. Also a program is needed to convert PC VOC and WAV samples to the Amiga's IFF format.
4.. Is it possible to convert music modules from the PC to a Protracker or MED format? I have no idea of the formats there are on the PC so I would also like some info on that too.
5. Do you know of any good sprite editor programs?
6.. I am also looking for a good assembler and disassembler which doesn't cost a fortune. A PD one would do for now until I can afford Devpac 3.
7. What is the best book to get for a beginner at 68K assembly?

PS. Please run a tutorial on C and assembly programming.

'TC', Ireland

Can we call you Top Cat? OK, let's take a look at those questions in order:
1. There are plenty of image file format conversion tools available from the Aminet and good PD houses. GFXCon is a good one.
2. You don't actually want to transfer rendered objects, but un-rendered objects. Yes, it is possible. Imagine objects will work with PC and Amiga versions of the program, and the same is true of Lightwave and Real 3D.
3. AmiSOX is a good one for this, available from the Aminet and good PD suppliers.
4. If the mods you have from the PC are multichannel things, XM format for example, you'll have a hard time of it. As you seem to have realised, you'll need to have a nice four channel Protracker or OctaMED module in order to keep the size and CPU load to a minimum. If the originals are straight mods (ie Soundtracker/Protracker format) then you should be able to play them directly with 'off the shelf' Amiga mod-playing code.
5. Off hand, no. Sorry.
6. Bar Fly will do the trick and is available from the Aminet.
7. Try Bruce Smith Books on 01923 894 355.By the way, it may be worth investing your time in C rather than 680x0 assembly, as the 680x0 CPU family is no longer being progressed. The next generation of Amigas will not be 680x0 based.
PS. We will be starting up a new programming series very soon, aimed at the more advanced coder.

HD or RAM?

I have an A1200 with a second floppy drive and a 24 pin colour printer. I intend buying your CD editions and therefore need to add a CD-ROM to my A1200 (which has a second floppy drive and a 24 pin Panasonic printer). Can you tell me which extras would be best to purchase at the same time as the CD, a hard drive or an accelerator with extra RAM? Bear in mind that I will be buying the other item later on.

S Chesterman, Cheshire

We'd advise you get a hard drive. A CD-ROM drive will be pretty useless without one. The accelerator and RAM upgrade will complete the set-up and give you a very good system.

Over the hill?

I've been thinking of upgrading my A300 for a while but now I'm not sure if the machine is worth it. I consider the big box 3000 to be a great machine and don't like the thought of down-grading to the 1200 just for the AGA chipset. But as I can't afford a 4000 and don't know the importance of the AGA chipset I don't know what to do. I've listed some ideas and I'd be grateful to know just how mad you think they are.

1. If you connect the CD32 as a CD-ROM to older Amigas, can they can use the AGA capabilities of the CD32?
2. If I get a graphics card equal to the power of the AGA chipset why then can't I use AGA software, and is this the only drawback of the card over the chipset?
3. Is there any way I could buy and insert the chips?
4.. Finally if the Amiga can emulate everything from the Spectrum to the PC, why can't non-AGA Amigas emulate AGA machines?

Matthew Dowling, Hampshire

That A3000 of yours is a neat machine and you shouldn't be too hasty in getting rid of it. The AGA chipset is only necessary if you want to play games that have been written specifically for AGA, and there aren't really that many of them.
However, your A3000 is far more useful for serious applications. With a graphics board (such as the new Cybervision 3D card) you will have a very impressive machine that can run all the major applications. As for your other questions...
1. No you can't use the AGA chipset of a CD32 in this way.
2. 24 bit graphics cards offer superior displays to the best AGA can offer, but you can't run AGA-specific software on a graphics card.
3. No, there's no AGA upgrade.
4. Games that use the AGA chips read and write to specific parts of the computer which just aren't there on non-AGA machines, which is why they don't work.

Happy hardcore

I have been writing music on my Amiga for the last three years. At the moment I am writing happy hardcore/bouncy techno but I can't seem to find any good samples that would be any use to me. Can you help? Also can you tell me who sells Toccata, Maestro and Delfina sound cards and are they any use to me? I have an Amiga 600.

Barry Walker, Livingston

You'll find lots of top samples on this month's CD-ROM edition of CU Amiga. Unforuntately, none of those sound cards work with the A600. For more info on Toccata and Maestro call MacroSystem in Germany on 0049 2302 949 490. For info on Delfina call Blittersoft on 01908 261 466 or email Petsoff at zuikkis@sci.fi or petsalo@lut.fi

Send your Q&A problems to ...

You can send your technical problems [or answers – Ed] to CU Amiga by the following means:
By letter to Q&A, CU Amiga, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU.
Email: Q+A@cu Amiga.co.uk.
NO SAES PLEASE We regret that we can't respond to readers' questions by post or over the phone. Please do not include a stamped addressed envelope with your letters as we simply don't have time to answer the thousands we receive. Responses are only available through the pages of this magazine.

Points of view

Answer to your prayers



■ Tony Horgan is CU Amiga Magazine's Editor.

by Tony Horgan

There I was in last month's Point's of View talking about how I thought someone, somewhere, would give us a wonderful new computer that gives the PC a good slap round the face with a wet halibut, and what should happen a week later? Those nice people at phase 5 go and announce just such a fish-wielding mega-machine! As you'll see from the awesome specifications detailed in this month's news section, the A\Box could well become a new standard for audio visual workstations, from TV and movie companies to recording studios and everything in between.

It's the kind of machine that will really separate those who are serious about innovative digital creation, and those who are content just to tinker with the overgrown screen savers.

At the moment there is no single dominant platform for professional audio and visual applications. On the audio side, the Mac is popular in the USA and has a growing following in Europe, but the PC is also widely used too, with the Atari ST still digging its heels into many of the smaller studios. While they all have their own advantages, you won't find many producers and musicians who are totally happy with any of those systems. Likewise, the many aspects of computer graphics and animation are handled by a wide variety of computers and dedicated workstations. Both sides are ripe for a new machine to come in and tie the whole thing up in one easy, flexible, powerful and cost effective system: A\Box.

If phase 5 can crack this, they'll be laughing. If that's the path they decide to follow, it's essential that at least a couple of killer applications are developed and ready in time for the hardware release. Facts and figures won't sell it but the right software will.

Anyone holding out for a decent new sub-£500 home computer could be in for a lengthy wait. Even though such a box is certainly in demand from a significant number of users, phase 5's sights will be set rather higher than this for the near future. Maybe this is where Viscorp can come in, if they ever actually close the Amiga-buyout deal with Escom. For now we should all be giving phase 5 our support and crossing our fingers that this time, it really is going to be all right! ■

“Maybe this is where Viscorp can come in, if they ever actually close the Amiga-buyout deal with Escom.”

Market forces



■ Lisa Collins is CU Amiga Magazine's Deputy Editor.

by Lisa Collins

If video killed the radio star, then marketing killed the Amiga gaming market. Let's be honest, 1996 wasn't the greatest year for the Amiga games market. We all know that. Despite the highs such as Worms, Killing Grounds and the like, quality releases became fewer and harder to find in the shops despite the fact that there was, and still is, a huge demand for them.

So why the lack of products on high street shops when there is a ready made market out there? Opportunistic marketing, that's why. PC companies saw a gap and went for it. The general confusion surrounding who owned the Amiga and its future in 1996 left a huge gap in the home computer market. Like any business would, PC companies saw an opportunity and took it. Thanks to heavy advertising campaigns, the PC was heralded as the only machine that you could surf the Net on, multitask and play games on too, things that the Amiga had been doing for years. However, no-one except existing Amiga users knew this as it wasn't publicised (cheers Commodore, Escom, AT and VIScorp.)

Some software companies were not immune to such advertising and they started to see the Amiga as the poor relation of games technology. It became more acceptable to be seen producing expensive, graphics heavy, often low on playabilty games for the PC and the myriad of consoles out there rather than the naff Amiga. Ergo, 1996 saw lots of major software companies dropping out of the Amiga games market and retail outlets (also not immune to advertising) giving Amiga products less shelf space.

OK, maybe marketing on behalf of the PC wasn't the only factor that led to the decline in the Amiga games scene but it certainly helped.

It doesn't make economic sense to me that companies whose supposed aim is to make money ignore an existing and dedicated market. The fact that there is still a huge user base of Amiga owners out there despite this past year is proof of that. The success of Worms also shows that the Amiga is still capable of producing a top selling game for all formats. Let's hope those that jumped ship realise this. ■

“... companies whose supposed aim is to make money ignore an existing and dedicated market.”

FAQ

Frequently Asked Questions

Programming in Assembly Language: is it good for you? We have all the answers ...

Q. What is Assembly? Is it different from Machine Code?

A. Assembler, or Assembly Language, is a Low Level Programming Language and it looks something like this:

```
move.w (a1,d0.w),d5
move.w (a0,d1.w),d6
swap d6
move.w (a1,d1.w),d6
moveq #NUMOBS-1,d7
lea vballcoords(pc),a5
```

Before an Assembly Language program can be executed by the Amiga, its need to be converted into Machine Code. ARexx, C, Pascal and BASIC must also be converted into Machine Code before they can be run. But Assembly Language is different because each instruction is converted into a single Machine Code one, whereas with BASIC or C each instruction is converted into many. To convert Assembly Language into Machine Code you need'll the program Assembler.

Q. Why use Assembly instead of a language such as C?

A. The main difference is speed: a program written in Assembly Language will be very fast. Assembly Language programs are also more compact than their High Level cousins. On the Amiga, one big advantage of using Assembly Language is that it is easy to interface with the custom graphics and sound chips. For this reason, practically all games are written in Assembler.

Q. What's the difference between Assembler and C or BASIC?

A. The main difference is that Assembler is linked with the computer's processor. So, you don't use as many variables because you need to store data. Instead you use special registers which are built into the processor's hardware. As you don't have functions and GOSUBs you must jump to different memory locations instead to run the program which is stored in memory.

Q. Since the machine code is so dependent on the processor, do different processors need varying Assemblers?

A. No, because the 680x0 family is designed to be downwardly compatible. So a program written for a 68000 will work perfectly on a 68040. However, the newer processors have extra instructions, so a program written for a 68040 may not run on a 68000.

Q. Why do I need to program in Assembler?

A. If you are writing software which needs to run quickly, such as fast action arcade games, then Assembler could be your only choice. This is also true for demo programs which make use of fancy graphics techniques. It's not always necessary to write an entire program in Assembly Language though: in many languages you can include functions written in Assembler as an integral part of the program. This means you can use as a language such as Blitz Basic or C to create the majority of the program and only include Assembler for the speed-critical parts.

Q. Is it difficult to program in Assembler?

A. It can be. On one hand you have the advantage that there are only a very small number of possible instructions and they all do very basic things. On the other hand, you need to be competent with computer hardware terms to understand what you are doing. Also, programming the Amiga in Assembly Language can be risky: if you leave out a line in an ARexx program the computer will tell you. Leave out a line in an Assembly Language program and the computer will crash.

The power of Assembly Language is also offset by the hard work needed to achieve seemingly simple things: even something apparently easy as printing a number on-screen. A C programmer can rely on the "printf()" function, but the Assembly Language programmer needs to take the contents of a register and decide what numbers to display. When you have to work at this level, writing a program such as a Word Processor is clearly a lot of work.

Of course, it's still possible to assess the Amiga's Operating System through Library calls, which means that if you are prepared to make use of the OS you can quickly create programs which utilise the familiar Windows/Icon/Mouse/Pointer interface.

Q. What software do I need to program with it?

A. You need an Assembler to convert the Assembly Language instructions into Machine Code. You will also need a fast and reliable text editor to enter all the code and a program called a 'Linker' which deals with making sure the Machine Code is in a suitable form to run on the Amiga.

You'll also need some good reference material: for example, if you want to use the Amiga's hardware you'll need the official Hardware Reference Manual. Likewise, if you want to make use of the OS you'll need the ROM Kernel Manuals. If you can't find these for sale, keep a look out for second-hand copies. You could make a point of getting hold of the special Amiga Developer CD-ROM as well.

Q. What software should I buy?

A. The definitive Amiga Assembler has always been Devpac from HiSoft, which includes all the tools you need plus an excellent manual. Alternatively, if you have another programming language already, there may be an Assembler built in: Blitz Basic for example can include Assembly Language, as can many C compilers.

If you prefer the Public Domain to commercial packages, look out for the superb PhxAss package which is available on Aminet. This includes an Assembler and Linker and has plenty of source code for you to experiment with.

Q. Where can I get more help on Assembler?

A. There are lots of good books available but you'll get most help on the Net. There are newsgroups full of Assembly Language programs and megabytes of source code for you to learn from.

John Kennedy

Backchat

Yes the rumours are true. There is a new Amiga and Barclays bank is giving us a huge plug. It's all jolly stuff in this month's readers' collective.

We're in the money

The Amiga is still a very viable business option and Barclays Bank think so too. How do I know this? Well, having recently decided to venture into the world of video production, I arranged a meeting with The Business Banker at my local Barclays Bank. After a brief chat I left armed with all the relevant information sheets that I needed. To my surprise and delight when I was reading through the video production company sheet, I came across a section entitled 'start up costs' which actually recommended the Amiga.

This leaflet described the equipment required for video production and after explaining a video editing suite set up, went on to say that one would need to "buy a computer costing approx £900. A recommended graphics computer is by Amega (their spelling not mine) because it allows for quality graphics to be created." It also mentioned genlocks and went on to say "once the computer is purchased it will be necessary to obtain various types of professional video software. One basic graphics programme is DPaint 4 and a good titling programme is by Scala called MM300."

Now despite the incorrect spelling of our favourite machine (which I shall be correcting them on when I return for my second meeting) it was very refreshing to learn that a business as large as Barclays recognises the Amiga as a quality graphics platform. This message may well get across to millions of other people through these fact sheets. When one considers the presence of Barclays Bank across the country, as well as a recommendation from a Bank (which still commands a certain amount of respect even in this day and age), perhaps the message will get to the people who would more than likely be duped by PC salesman. I hope that this message cheers you up, especially after all the letters you receive from the whingers and moaners.

Pete Casson, Bristol.

A new Amiga!

I heard a rumour that at long last we are going to see a new Amiga. And that it's going to knock the socks off the PC. Is this true? Please tell me that it is. This is what we've all been waiting for.

Jeremy Colvin, Oxford.

Yes, it is. CU Amiga Magazine are delighted to be the first people to tell you about the A/Box. Turn to the news pages now to find out all about this new machine.

Any bright ideas?

In the August issue you were asking what future we saw for our beloved machine. I've come up with an answer which is definitely not the industry way but it's still worthy of consideration in the way we want the Amiga to develop.

The Amiga is based on the Motorola 680x0 series and recently the 68060 has become available on the Amiga. The 060 is scarcely state of the art though and the 060's 2.4 million transistors barely scratches the surface of 125 million so how about putting the Amiga custom chips onto the same chip? This means that we could upgrade the sound to 16 bits and the number of channels to 32.

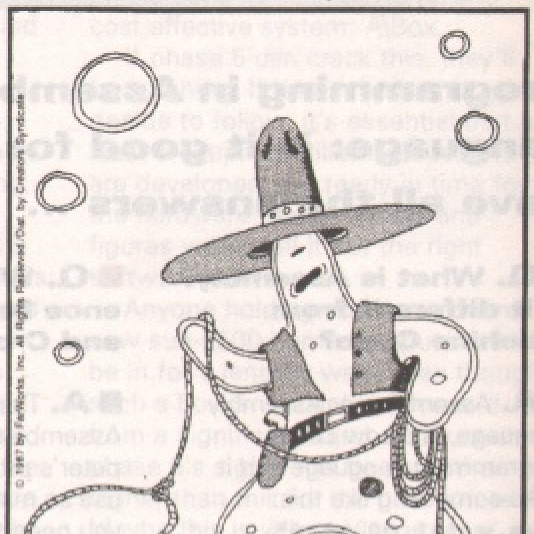
We could go one step further and put eight complete 060 systems onto a single chip and link them together to enable task transferring. Thus any 060 that's busy can pass tasks to one that is idle or less busy. So you could have multitasking and task sharing computers.

What's more it should be possible to get enough RAM onto the same chip to let each processor have 16Mb to have even more speed. Graphics and video handling would be much faster also as well as modem transfer rates. Obviously, the existing software base would also run perfectly albeit much faster. So, this new machine would be easier to use and program by Mr Average while opening the way to a whole new range of advanced multiple simultaneous programming techniques.

Anon, Northumberland.

It sounds like a nice idea, but the point of using the 680x0 CPU chips is that they are 'off the peg' components made by Motorola and simply bolted onto the motherboard. Fixing a number of these together wouldn't really be possible and if you tried to put a few of them on the motherboard for a kind of parallel processing system the cost would almost certainly be prohibitive. Phase 5 seem to have the right idea (as reported in this issue's news section) with their combination of a PowerPC CPU and a set of super-fast custom chips, all joined together with amazingly fast data busses.

THE FAR SIDE By GARY LARSON



"So, until next week — adios, amoebas."

Hey big spender

I was first introduced to the Amiga in 1992 at the age of 57 when my daughter bought an A600. This year I decided to make some changes. I moved over to your magazine from another Amiga journal to I discover what I should have had from the outset. CU Amiga Magazine is full of informative features, absorbing Q&A and I can never get enough of the Backchat pages. In my opinion your magazine has the potential to keep the Amiga on its feet. (Ah shucks -Ed)

My other move was trading in my daughter's A600 for an A1200 with 170Mb hard drive. I then upgraded again to 6Mbs with an Apollo 68020/25MHZ accelerator and two external drives. However, a younger man might not have invested this money like I did. So, I would like to tell the author of the 'tight wads' letter in the November Backchat to stop bluffing. If you have the money to throw around it does not necessarily mean we all have.

Alf Goldman, Malta.

Poetry corner

We are looking for entries for our next anthology of poetry. This time the subject is communication. So if you fancy yourself as a bit of a bard, jot down a poem or two about the wonderful world of communication and send it to: Poetry Now Communication, 1-2 Wainman Road, Woodston, Peterborough PE2 7BU. All work published will receive royalties and and the copyright will remain with the author. For more information contact me on: 01733 230 759.

Lucy Jeacock, Peterborough.

A bunch of users

I though it was about time that I brought everyone's attention to the existence of user groups as they don't get seem to get any coverage anywhere lately.

I am a member of ICPUG, the most widely-known Amiga group and I am writing to let everyone know the invaluable service that groups like this provide. Weekly meetings include events such as lectures from well-known industry personalities, PD nights, and open nights when you can bring in your Amiga for any help or advice you may need.

There are lots of regional branches around the country and if you would like any more information please contact me on tel: 01732 460387.

Peter Brightwell, Kent.

Let's get sorted

All right, I'm fed up with this! You walk into any computer shop in any town and ask where the Amiga section is and they reply: "Doh! What Amiga section?" All these people that write in and say "why don't the software houses make more Amiga games and moan about how the Amiga world is dying", should stop babbling and go and do something about it.

Your save the Amiga letter to VIScorp was an excellent idea but we need to take more action. Since you are the best Amiga magazine there is, why don't you organise an official day every month or so when every Amiga user goes out and starts pestering shops about their Amiga stocks? Just think what thousands of dedicated Amiga users complaining to stores nationwide could do to boost awareness. Let's get this thing sorted.

JA Phillips, Staffordshire.

Great idea JA. Also, look to the right here and you'll see that we're ready to get the ball rolling.

The endless march of technology (ha!)

letter of the month

Home users who, to be fair, haven't got a clue what they're buying, are being sold packages well in excess of their needs. NOBODY should need even a computer as fast as a Pentium at home, let alone a P166. Even my slow little 68020 A1200 can do virtually everything a PC can and if the networked 486sx25 PCs at college are anything to go by, can often do it faster.

Every day I open a newspaper I see companies offering increasingly powerful and high-spec PCs. Adverts for P166 computers, with 32Mb RAM, 2Gb (!) hard disks, £1-2000 of software, Windows '95, built in V34 28.8K fax modems, colour inkjet, Diamond Stealth 64-bit graphics card, and 15" monitor are becoming the norm. Although the fact that such bundles are priced at around the same as most places charge for a 16Mb P100 means they are great value, are they really allowed to say things like "don't consider anything less powerful than a P133" or "don't buy a modem slower than 28.8K"?

Pushing ever faster machines into the home market inevitably leads to people being, to put it bluntly, conned into buying hardware specifications which are well above what they need. For example, how many users do, for instance, memory and processor intensive work regularly such as 3D graphics rendering or multitasking more than a couple of programs at a time? Less than 5% would be my guess – probably less. And yet despite this, what is the standard home user spec? A minimum of P90 with 16Mb RAM and a 24-bit graphics card fitted with 2Mb VRAM, along with an SVGA 14" monitor. Out of all of that, the monitor is the only thing that is really justified. Amigas, to me, are easier to use, often faster than any Windows application, and far, far cheaper.

This isn't just the view of a die hard Amiga fanatic, somebody in my computing class programs on PCs and says he prefers Amigas for their ease of use and general nippiness. People are bound to argue with me but I don't care. My computer is about five years old and can still run almost every new application pretty well. With the 68030 and 4Mb expansion I'm saving for, it will run all of them more or less to their full potential.



James Pullen, Fleet, Hants.

Sure, there is a need for cheap (sub £1000) home computers but without this kind of progress we would still be using Spectrums. It's a fair point though. Should everyone be forced to spend at least a grand if all they want is a humble machine that does a bit of word processing now and again?

Shoppers corner

'I got it here'

The feature that we did back in May 1996 about where you could get Amiga products is still arousing interest. Last month, we asked readers to send in details of where they got Amiga products and where they received great service. Here are some of the entries we've received so far:

Crewe High Street Micros
Doncaster The Computer Store
Leicestershire Microgenesis
London HMV (Oxford Street), Multimedia Discount Shop (Woodgreen), Tandy (Woodgreen), WHSmith (Woodgreen)
Liverpool Game
Luton Beatties, Electronic Boutique, Tandy, Silica (Debenhams)
Manchester Boots (Arndale Shopping Centre), WHSmith (Arndale Shopping Centre), HMV, Game
Meadowhall Game, Virtual Reality
Middlesborough Chips Computers
Northampton Direct Software
Pontrefract Microtron
Sheffield Game
Southport Screen Arts (Eastbank Street)
Torquay Multimedia

Thanks to Andrew Clarke, Leicestershire, Thomas Scholes, Southport, David Green, Yorkshire, Susan Connolly, Bolton, Seamus White, London, Vincent Peele, Northampton and Alan Bunker for this little lot.

Over the coming months we are aiming to provide an even more detailed service. To help us do this, please fill in the following form and send it to: 'I got it here' CU Amiga Magazine, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

Name of Shop
Shop's address
Tel
Type of products on sale
Quantity of goods available:
☐ Very Little ☐ Average ☐ Mountains
Quality of service:
☐ Poor ☐ Good ☐ Excellent
Your name
Address

Thank you for taking the time out to fill in this form. Help keep the Amiga alive.

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Next Month ...



DesignWorks

The wonderful Design Works will be headlining our February 1997 cover disks and CD. You can also expect an exclusive behind the scenes look at the stunning new machine from phase 5, complete with all the info you need to know. Look out too for a wheelbarrow full of hot new products released at the recent Amiga show in Cologne.

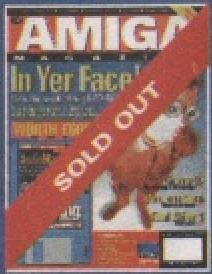
February 1997 ... out January 15th

PLUS: Exclusive Worms AGA Upgrade FREE on CD-ROM!!

Back Issues

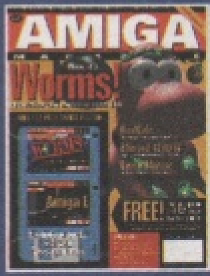
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November 1995



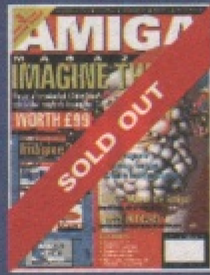
ON THE DISKS: AudioMaster IV full program, Virtual Karting demo, CD-ROM edition- Aminet 7 and more.
FEATURES: CD-ROM definitive guide to drives and disks.
INSIDE: Cinema 4D, Mac™ Emulation, Final Writer 4, Pinball Mania.

December 1995



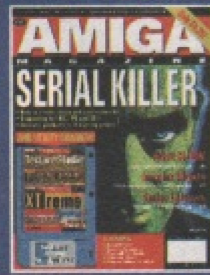
ON THE DISKS: Worms demo, Amiga E full program plus free Amiga E manual
FEATURES: Programming, Amiga music.
INSIDE: Leading Lap, Worms, Flight of the Amazon Queen, Coala, FinalCalc and Amiga M1438S Monitor.

January 1996



ON THE DISKS: Imagine 3.0 full program, Zeewolf 2 & Algomusic
FEATURES: 3D rendering using our cover disk.
INSIDE: MiconiK Tower, World Construction Set, Amilink, Zeewolf 2, SWOS 95/96, Super Tennis Champions and much more.

February 1996



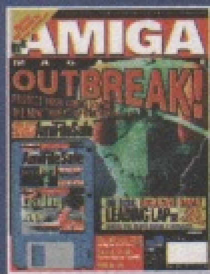
ON THE DISKS: TextureStudio plus Imagine objects, DVerb, Mandel 92, Bluff Titler, Amiga E source code, Xtreme Racing.
FEATURES: Serial linking, portable Amiga prototypes and the first Net Wedding.
INSIDE: DiskMagic, HiSoft CD-ROM, Virtual i glasses.

March 1996



ON THE DISKS: VideoStage Pro, Imgauge & XFD, Gloom Deluxe and 10 Worms levels.
FEATURES: VideoStage and The future of Games.
INSIDE: 060 for A1200, Wordworth 5, Blitz Basic, Super Street Fighter II Turbo, Super Skidmarks data disk.

April 1996



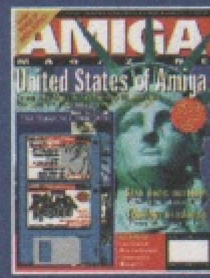
ON THE DISKS: AmiFileSafe, Leading Lap SE – 5 level full game. CD-ROM edition available.
FEATURES: Virus Protection and Wallace & Gromit in the right computer.
INSIDE: SX 32, HiQ Station, The Chaos engine previewed, Zeewolf 2 tips, and more...

May 1996



ON THE DISKS: Soundtracker Pro II, MIDI Sequencer demo, Alien Breed 3D2 demo.
FEATURES: Free Amiga music book, the new Walker, Amiga Surfer pack, and the quest for Amigas.
INSIDE: LightWave 4, Slamtilt Pinball, Tracksuit Manager 2 reviewed.

June 1996



ON THE DISKS: Termite demo, Killing Grounds demo. Plus free 96 page net and comms guide.
FEATURES: Escom sells Amiga Technologies, publish your music.
INSIDE: Modem round-up, Total Football and new TimeKeepers disk reviewed.

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July 1996



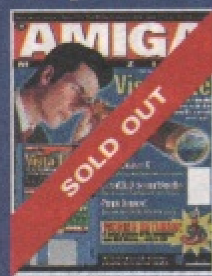
ON THE DISKS: XiPaint (full program) and Primal Rage demo.
FEATURES: Special report on what's happening in Europe and the latest on Visorp and PIOS.
INSIDE: Image FX 2.6, Surf Squirrel, A4000 Tower, Primal Rage, SWOS Euro and more reviewed.

August 1996



ON THE DISKS: EasyCalc (full program) and Valhalla III demo.
FEATURES: The future of the Amiga with VIScorp, the new PIOS machine and the second part of the Euroscene feature.
INSIDE: Siamese Twin, Photogenics 2.0, Valhalla III and Tin Toy reviewed.

September 1996



ON THE DISKS: Vista Lite (full program) and a demo of Brian Lara Cricket '96. CD-ROM edition too.
FEATURES: The Aminet exposed. All 6 gigabytes!
INSIDE: Final Writer 5, OctaMED SoundStudio, Atapi CD-ROM drive. Plus an exclusive preview of the new AGA Worms.

October 1996



ON THE DISKS: Upper Disk Tools: ideal for sorting out those awkward disks and drives!
FEATURES: The Amiga in America, Net software...
INSIDE: The speed issue, or something. Three top accelerators, a TCP/IP stack comparison and Capital Punishment.

November 1996



ON THE DISKS: XCAD 2000 - The premier 3D CAD package, plus Chaos Engine 2. Choose CD-ROM or floppy edition.
FEATURES: Palmtop Amiga-Psion link-up.
INSIDE: Opus 5.5, Delfina DSP sound card, Web Browser War, Alfa Quatro, CD-ROM writer and more.

December 1996



ON THE DISKS: Wordworth 3.1 SE, Worms - The Directors Cut demo. CD-ROM or floppy edition.
FEATURES: CD-ROM drive for £50! Amiga and PC games on CD-ROM.
INSIDE: Draw Studio, Apollo 1230, Storm C, Siamese RTG system, Teen Agent, Tiny Troops and more.

NET CONNECT



It's HERE! Zoom release 2 - now ready and in stock for delivery (at last!). Zoom 2 contains all that's new and great from May 1995 to June 1995. All the best PD/shareware will be found on this CD. We included all the best from our library, submissions, the Aminet, BBS's and other contacts. The difference between this and Zoom 1? Zoom 2 is 99% ready-to-run, set in an excellent Magic WB environment and and much more accesible than its predessor. There is so much on Zoom 2 - utilities, tools, productivity, educational programs, business, games, Magic WB stuff, slideshows, documents and much more. There is also an exclusive 'Get Started' demo on the CD for AGA machines. If you want the very latest PD from every conceivable source - Zoom 2 is for you! Zoom release 1 was one the most popular CD's from Summer 1995. Zoom release 2 will be hotter! Get yours before stocks run low!

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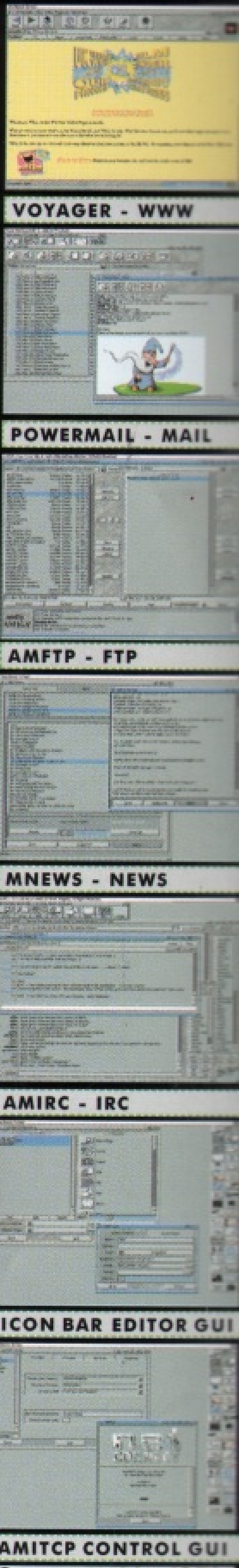
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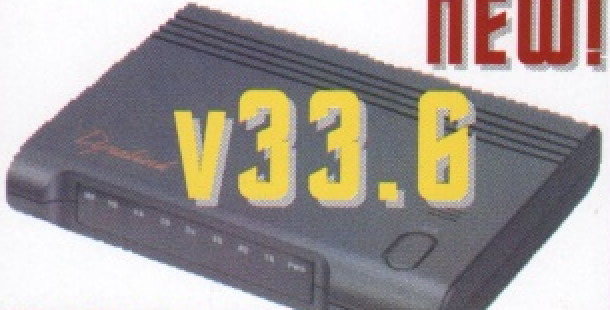


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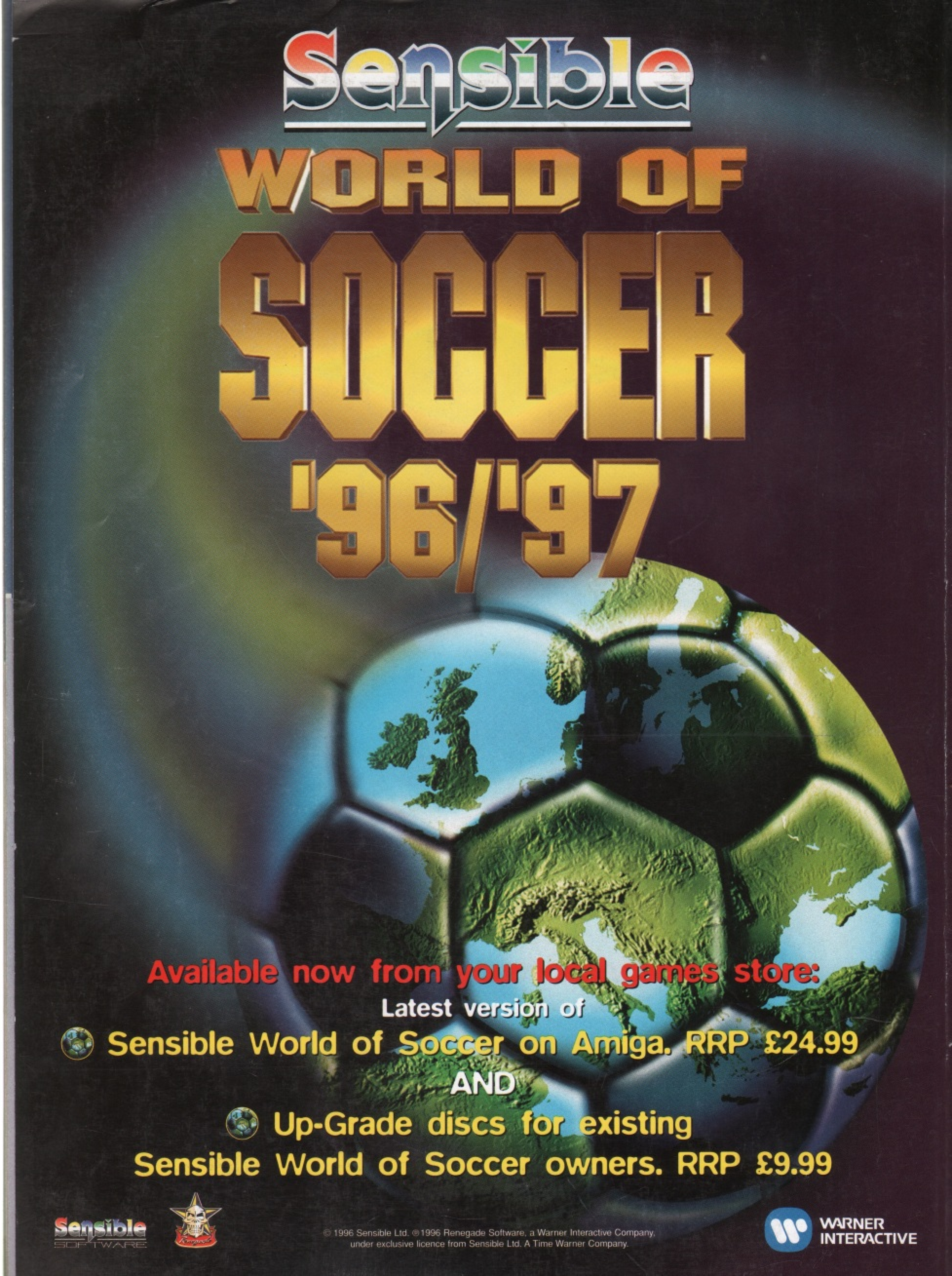
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